

1. Claim Accounting

Claims 1, 5-7, 9-14, 16-19, 21-30, 32-44, 51, 60, 63-65, 68, 74-79, 82, 88-106, 128, 144, 152-153, 155-162, 164-177, 185, 189-200, 202-204, 207-208, 210-228, 230-252, 254-260, 262-290, 292-295, 299, 320-321, 323, 325, 329, 338-339, 341-342, 345, 349, 352, 383, 386-391, 394-396 & 399 are amended. Claims 1-399 are pending in the application. Applicants present no new matter in the foregoing amendments. Applicants respectfully request approval and entry of this amendment.

2. Summary of Office Action Rejections

The Office Action mailed on March 30, 2000 only rejects claims 1-152. However, Applicants' have added claims 153-399 in an amendment on May 8, 2000 in consonance with Applicants' agreement with the PTO to consolidate certain of Applicants' co-pending applications. Therefore, this response considers the rejection of claims 1-152 to apply to all currently pending claims 1-399.

The following summarizes the objections and rejections of the March 30, 2000 Office Action with respect to its corresponding paragraph numbers:

Paragraph 3. Claims 1-399 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Paragraph 4. Claims 1-399 that are directed to digital related processes and apparatus, are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Paragraph 5. Claims 1-399 that are directed to data, datum, and indicia and related processes and apparatus, are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way to

enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Paragraph 6. Claims 1-399 are rejected under 35 U.S.C. § 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed.

Paragraph 8. Claims 1-399 are rejected under 35 U.S.C. § 112, second paragraph, as failing to set forth the subject matter which Applicants regard as their invention.

Paragraph 9. Claims 1-399 using the terms having different descriptions from Applicants' 1987 specification and 1981 priority application, are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants' regard as their invention.

Paragraph 10. Claims 1-399 using the terms, *inter alia*, 'program' and 'programming' are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants' regard as their invention.

Paragraph 12. Claims 1-399 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Applicants' U.S. Pat. Nos. 4,694,490 and 4,704,725.

Paragraph 14. Claims 1-399 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants WO 89/02682.

Paragraph 15. Claims 1-399 that are directed to processes of controlling cable head end processes and monitoring of those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.

Paragraph 16. Claims 1-399 that are directed to, *inter alia*, processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeffers et al., U.S. Pat. No. 4,739,510.

Paragraph 17. Claims 1-399 that are directed to, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.

Paragraph 18. Claims 1-399 that are directed to, *inter alia*, processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes, are rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze "Television Line 21 Encoded Information and It's Impact on Receiver Station Design"; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.

Paragraph 19. Claims 1-399 that are directed to, *inter alia*, either processes of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, that fall out each particular determining group members of the group of claims described in rejection above, the groups are rejected further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat. No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat.

No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakihara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.

Paragraphs 20-21. All claims are subject by the Office to an administrative requirement based on the nonstatutory double patenting rejection based on a judicially created doctrine preventing the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.

Paragraph 23. All pending claims are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over at least one or more of Applicants' issued patents, U.S. Pat. Nos.: 4,694,490; 4,704,725; 4,965,825; 5,109,414; 5,233,654; and 5,335,277, in view of at least one or more of: Marsden, Young et al., Flynn, Davis, Tunmann et al., Germany, Chiddix, Skilton, Schiller et al., Zettl, Vikene, Greenberg, Jeffers et al., Diederich, Campbell et al., Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, Galumbeck, CBS/CETT North American Broadcast Teletext Specification," Zaboklicki, Nagel, Kakihara, Hedger et al., Anderson, Gunn, Gaucher, and Schnee et al.

Paragraph 24. Rejects Applicants' basis for amending the typographical errors in the instant specification in two places on page 37.

Paragraph 25. The oath or declaration is defective under 37 C.F.R. § 1.67(a).

B. Summary of Claim Amendments

Claims 1, 5-7, 9-14, 16-19, 21-30, 32-44, 51, 60, 63-65, 68, 74-79, 82, 88-106, 128, 144, 152-153, 155-162, 164-177, 185, 189-200, 202-204, 207-208, 210-228, 230-252, 254-260, 262-290, 292-295, 299, 320-321, 323, 325, 329, 338-339, 341-342, 345, 349, 352, 383, 386-391, 394-396 & 399 are amended.

Claim 1 has been amended to correct an antecedent basis problem.

Claim 5 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 6 has been amended to correct an antecedent basis problem.

Claim 7 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 9 has been amended to correct an antecedent basis problem.

Claim 10 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 11 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 12 has been amended to correct an antecedent basis problem.

Claim 13 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 14 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 16 has been amended to correct an antecedent basis problem.

Claim 17 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 18 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 19 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 21 has been amended to correct an antecedent basis problem.

Claim 22 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 23 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 24 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 25 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 26 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 27 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 28 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 29 has been amended to correct an antecedent basis problem.

Claim 30 has been amended to correct an antecedent basis problem.

Claim 32 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 33 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 34 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 35 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 36 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 37 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 38 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 39 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 40 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 41 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 42 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 43 has been amended to correct an antecedent basis problem.

Claim 44 has been amended to correct an antecedent basis problem.

Claim 51 has been amended to correct an antecedent basis problem.

Claim 60 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 63 has been amended to correct an antecedent basis problem.

Claim 64 has been amended to correct an antecedent basis problem.

Claim 65 has been amended to correct an antecedent basis problem.

Claim 68 has been amended to correct an antecedent basis problem.

Claim 74 has been amended to correct an antecedent basis problem.

Claim 75 has been amended to format the claim language.

Claim 76 has been amended to format the claim language.

Claim 77 has been amended to correct an antecedent basis problem.

Claim 78 has been amended to correct an antecedent basis problem.

Claim 79 has been amended to format the claim language.

Claim 82 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 88 has been amended to correct an antecedent basis problem.

Claim 89 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 90 has been amended to correct an antecedent basis problem.

Claim 91 has been amended to correct an antecedent basis problem.

Claim 92 has been amended to correct an antecedent basis problem.

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Claim 95 has been amended to correct an antecedent basis problem.

Claim 96 has been amended to correct an antecedent basis problem.

Claim 97 has been amended to correct an antecedent basis problem.

Claim 98 has been amended to correct an antecedent basis problem.

Claim 99 has been amended to correct an antecedent basis problem.

Claim 100 has been amended to format the claim language.

Claim 101 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 102 has been amended to correct an antecedent basis problem.

Claim 103 has been amended to correct an antecedent basis problem.

Claim 104 has been amended to correct an antecedent basis problem.

Claim 105 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 106 has been amended to correct an antecedent basis problem.

Claim 128 has been amended to correct an antecedent basis problem.

Claim 144 has been amended to correct a typographical error.

Claim 152 has been amended to correct an antecedent basis problem.

Claim 153 has been amended to correct an antecedent basis problem.

Claim 155 has been amended to correct an antecedent basis problem.

Claim 156 has been amended to correct an antecedent basis problem.

Claim 157 has been amended to correct an antecedent basis problem.

Claim 158 has been amended to correct an antecedent basis problem.

Claim 159 has been amended to correct an antecedent basis problem.

Claim 160 has been amended to correct an antecedent basis problem.

Claim 161 has been amended to correct an antecedent basis problem.

Claim 162 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 164 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 165 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 166 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 167 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 168 has been amended to correct an antecedent basis problem.

Claim 169 has been amended to correct an antecedent basis problem.

Claim 170 has been amended to correct an antecedent basis problem.

Claim 171 has been amended to correct an antecedent basis problem.

Claim 172 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 173 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 174 has been amended to correct an antecedent basis problem.

Claim 175 has been amended to correct an antecedent basis problem.

Claim 176 has been amended to correct an antecedent basis problem.

Claim 177 has been amended to correct an antecedent basis problem.

Claim 185 has been amended to correct a typographical error.

Claim 189 has been amended to correct an antecedent basis problem.

Claim 190 has been amended to correct an antecedent basis problem.

Claim 191 has been amended to correct an antecedent basis problem.

Claim 192 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 193 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 194 has been amended to correct an antecedent basis problem.

Claim 195 has been amended to correct an antecedent basis problem.

Claim 196 has been amended to correct an antecedent basis problem.

Claim 197 has been amended to correct an antecedent basis problem.

Claim 198 has been amended to correct an antecedent basis problem.

Claim 199 has been amended to correct an antecedent basis problem.

Claim 200 has been amended to correct an antecedent basis problem.

Claim 202 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 203 has been amended to correct an antecedent basis problem.

Claim 204 has been amended to correct an antecedent basis problem.

Claim 207 has been amended to correct an antecedent basis problem.

Claim 208 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 210 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 211 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 212 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 213 has been amended to correct a typographical error.

Claim 214 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 215 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 216 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 217 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 218 has been amended to correct an antecedent basis problem.

Claim 219 has been amended to correct an antecedent basis problem.

Claim 220 has been amended to correct an antecedent basis problem.

Claim 221 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 222 has been amended to correct an antecedent basis problem.

Claim 223 has been amended to correct an antecedent basis problem.

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Claim 225 has been amended to correct an antecedent basis problem.

Claim 226 has been amended to correct an antecedent basis problem.

Claim 227 has been amended to correct an antecedent basis problem.

Claim 228 has been amended to correct an antecedent basis problem.

Claim 230 has been amended to correct an antecedent basis problem.

Claim 231 has been amended to correct an antecedent basis problem.

Claim 232 has been amended to correct an antecedent basis problem.

Claim 233 has been amended to correct an antecedent basis problem.

Claim 234 has been amended to correct an antecedent basis problem.

Claim 235 has been amended to correct an antecedent basis problem.

Claim 236 has been amended to correct an antecedent basis problem.

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Claim 238 has been amended to correct an antecedent basis problem.

Claim 239 has been amended to correct an antecedent basis problem.

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Claim 243 has been amended to correct an antecedent basis problem.

Claim 244 has been amended to correct an antecedent basis problem.

Claim 245 has been amended to correct an antecedent basis problem.

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Claim 247 has been amended to correct an antecedent basis problem.

Claim 248 has been amended to correct an antecedent basis problem.

Claim 249 has been amended to correct an antecedent basis problem.

Claim 250 has been amended to correct an antecedent basis problem.

Claim 251 has been amended to correct an antecedent basis problem.

Claim 252 has been amended to correct an antecedent basis problem.

Claim 254 has been amended to format the claim language.

Claim 255 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 256 has been amended to correct an antecedent basis problem.

Claim 257 has been amended to correct an antecedent basis problem.

Claim 258 has been amended to correct an antecedent basis problem.

Claim 259 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 260 has been amended to correct an antecedent basis problem.

Claim 262 has been amended to correct an antecedent basis problem.

Claim 263 has been amended to correct an antecedent basis problem.

Claim 264 has been amended to correct an antecedent basis problem.

Claim 265 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 266 has been amended to correct an antecedent basis problem.

Claim 267 has been amended to correct an antecedent basis problem.

Claim 268 has been amended to correct an antecedent basis problem.

Claim 269 has been amended to correct an antecedent basis problem.

Claim 270 has been amended to correct an antecedent basis problem.

Claim 271 has been amended to correct an antecedent basis problem.

Claim 272 has been amended to correct an antecedent basis problem.

Claim 273 has been amended to correct an antecedent basis problem.

Claim 274 has been amended to correct an antecedent basis problem.

Claim 275 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 276 has been amended to correct an antecedent basis problem.

Claim 277 has been amended to correct an antecedent basis problem.

Claim 278 has been amended to correct an antecedent basis problem.

Claim 279 has been amended to correct an antecedent basis problem.

Claim 280 has been amended to correct an antecedent basis problem.

Claim 281 has been amended to correct an antecedent basis problem.

Claim 282 has been amended to correct an antecedent basis problem.

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Claim 287 has been amended to correct an antecedent basis problem.

Claim 288 has been amended to correct an antecedent basis problem.

Claim 289 has been amended to correct an antecedent basis problem.

Claim 290 has been amended to correct an antecedent basis problem.

Claim 292 has been amended to correct an antecedent basis problem.

Claim 293 has been amended to correct an antecedent basis problem.

Claim 294 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 295 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 299 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 320 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 321 has been amended to correct an antecedent basis problem.

Claim 323 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 325 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 329 has been amended to correct a typographical error.

Claim 338 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 339 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 341 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 342 has been amended to correct an antecedent basis problem.

Claim 345 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 349 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 352 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 383 has been amended to format the claim language.

Claim 386 has been amended to correct an antecedent basis problem.

Claim 387 has been amended to format the claim language.

Claim 388 has been amended to correct an antecedent basis problem.

Claim 389 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 390 has been amended to format the claim language.

Claim 391 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 394 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 395 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 396 has been amended to correct an antecedent basis problem.

Claim 399 has been amended to format the claim language.

C. Statement of Patentable Novelty under 37 C.F.R. § 1.111

Applicants submit that the independent claims as amended include the following limitations that are not found in the prior art. These limitations show patentable novelty in view of the state of the art disclosed by the references cited and the objections made.

Claim 1:

receiving a plurality of said data units on a multiple channel data stream, at least some of said data units being received sequentially; and

performing the following steps for each of said received data units:

(a) storing the received data units in a data buffer;

(b) decoding the identification portion of the data units to identify the at least one characteristic of the data units;

(c) determining whether the data units should be distributed before or after one or more other of said data units based on the identified at least one characteristic of the data units; and

(d) transmitting the data units in an order relative to other of said data units based on said step of determining.

Claim 5:

receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;

processing said data units by decoding said identification portion of each of said data units to identify priority of said information content portion of said data units;

routing each of said data units to a data port on said switch;

selecting a storage location to store each of said data units; and

communicating each of said data units to said selected storage location to prioritize transmission of each of said data units.

Claim 12:

receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by a switch;

processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;

comparing said identification portion of said data units to predetermined timing data to determine a transmission time based on said identification portion of said data units; and

transmitting said data units based on said comparing step.

Claim 17:

receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;

processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;

comparing said decoded identification portion of each of said data units to predetermined priority data to determine a transmission priority;

communicating an instruct-to-delay signal to cause a delay in communication of said data units.

Claim 24:

receiving said data units from a multiple channel data stream, said multiple channel data stream having said data units separated in the time domain so that said data units are sequentially received on a data port on said switch;

processing said data units by decoding said first portion of said data units to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said data units;

assigning a transmission priority to said data units based on said type of data in said second multimedia portion of said data units determined by said step of processing said data units by placing said data units into said data buffer and;

transmitting said data units based on said assigned priority determined by the type of data in said second multimedia information portion of said data units to a data port on said switch.

Claim 33:

receiving said multimedia data at an input on a first switch, said multimedia data having multimedia signal units separated in the time domain so that said multimedia data is sequentially received;

processing said multimedia data units by decoding a first encoded portion of said multimedia data units to determine a destination address for said multimedia data units;

routing said multimedia data units to an output port on said network of switches based on said processing step;

storing said multimedia data units in a temporary storage location based on said routing step that was determined in said processing step;

transmitting said multimedia data units from said temporary storage location at an asynchronous time, said asynchronous time determined by decoding said first encoded portion of said multimedia data units to determine a type of data in said second multimedia information portion to a second switch.

Claim 38:

receiving multimedia data units from a multiple channel data stream, said multiple channel data stream having multimedia data units separated in the time domain so that said multimedia data units have an asynchronous arrival at a data port on said switch;

processing said multimedia data units by decoding said first portion to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said multimedia data units;

storing said multimedia signal in a temporary storage location based on said routing information determined in said processing step;

processing said multimedia data units by decoding said second multimedia information portion of said multimedia data units and re-formatting said multimedia data units from said second multimedia information portion of said multimedia data units;

re-timing said re-formatted multimedia data units into a synchronous data stream.

Claim 51:

inputting and storing a command, said command designating at least one of:

(1) a signal to be stored, said signal including at least one of television, radio, video, audio, data, and computer programming;

(2) a time to communicate a signal; and

(3) a place to communicate a signal to or from, said place including at least one of a transmitter, video monitor, a speaker, a computer, a processor, a controller, a storage device, and a subscriber station;

receiving said signal;

storing said signal at a first storage location, said first storage location being capable of being commanded to store and output said signal; and

outputting said signal from said first storage location to a second storage location in accordance with said command;

storing said signal at said second storage location, said second storage location being capable of being commanded to store and output said signal; and

communicating said signal from said second storage location.

Claim 52:

receiving an information transmission including programming comprising at least one of television, radio, video, audio, data, and computer programming;

demodulating said information transmission;

detecting said programming embedded in said information transmission;

storing said programming at a first storage location;

transferring said programming stored at said first location to a second location in response to a command;

storing said programming at said second storage location to enable said receiver station to transfer said programming from said second storage location to a computer at a specific time or in response to said command.

Claim 59:

storing television programming at a first storage location, said television programming, including video and audio;

transferring, under computer control, said television programming from said first storage location to a second storage location at a selected one of said at least one intermediate station;

storing said television programming at said second storage location to enable said selected intermediate station to communicate said television programming from said second storage location to a selected one of said at least one subscriber station;

communicating a programming identification signal from said origination station to said selected intermediate station, said programming identification signal identifying said television programming stored at said second storage location;

detecting, at said selected intermediate station, said programming identification signal communicated from said origination station; and

communicating said television programming from said second storage location to said selected subscriber station based on said programming identification signal.

Claim 60:

storing television programming at a first storage location at a first intermediate station, said first intermediate station being one of said plurality of intermediate stations in said network;

transferring, under computer control, said television programming from said first storage location to a second storage location at a second intermediate station, said second intermediate station being one of said plurality of intermediate stations in said network;

storing said television programming at said second storage location to enable communication of said television programming from said second intermediate station to at least one of said plurality of subscriber stations.

Claim 66:

receiving one of a broadcast and cablecast transmission;

demodulating said one of a broadcast and cablecast transmission, said one of a broadcast and cablecast transmission including an embedded signal;

detecting said embedded signal on said one of a broadcast and cablecast transmission;

selecting information stored at a first storage location in response to said embedded signal;

transferring said information from said first storage location to a second storage location based on said embedded signal, thereby providing a computer access to said information; said first storage location and said second storage location being capable of being commanded to store and output programming.

Claim 68:

inputting schedule information that specifies said television programming, and at least one of:

- (a) a time to communicate said television programming; and
- (b) a place to communicate said television programming to;

transferring said television programming from said first storage location to said second storage location thereby enabling said transmission station to communicate said television programming from said second storage location to a receiver station in accordance with said schedule information.

Claim 72:

a receiver for receiving an information transmission, said information transmission including said programming;

a first storage device connected to said receiver for storing said programming;

a second storage device connected to said first storage device, said second storage device storing said programming output by said first storage device;

a switch connected to said first storage device and said second storage device;

a computer connected to said first storage device, said second storage device, and said switch for controlling said first storage device to output said programming to said second storage device and controlling said second storage device to output said programming to said switch, said computer being capable of:

- (1) selecting a storage device to store said programming;
- (2) commanding said switch to transfer said programming to said selected storage device; and
- (3) commanding said selected storage device to store said programming; and

a cable network connected to said switch for receiving said programming output from said second storage device and communicating said programming to a plurality of subscriber stations.

Claim 74:

a first storage device for storing said television programming;

a second storage device for storing said television programming;

a configurable switch connecting said first storage device to said second storage device;

a modulator connected to said second storage device for communicating said television programming to subscribers; and

a computer connected to said first storage device, said second storage device, and said configurable switch, said computer having a memory and being programmed to perform the following steps:

(a) receiving and storing a programming schedule, said programming schedule designating said television programming, a time to communicate said television programming, and one of a communication channel and frequency for communicating said television programming;

(b) controlling said first storage device to receive and store said television programming;

(c) controlling said configurable switch and said first storage device to transfer said television programming from said first storage device to said second storage device;

(d) controlling said second storage device to store said television programming; and

(e) controlling said second storage device and said modulator to communicate said television programming from said second storage device to said subscribers according to said programming schedule.

Claim 75:

inputting an instruct signal which is effective at said subscriber station to output a signal from a first storage location and store said signal at a second storage location;

detecting the presence of an instruction associated with said instruct signal, said instruction being effective at said subscriber station to generate subscriber station specific data and to select and assemble said subscriber station specific data into a record;

processing at said subscriber station inputted data and performing, in response to said instruction, one of:

(a) generating subscriber station specific data and communicating said subscriber station specific data to a transmitter; and

(b) selecting and assembling into said record said subscriber station specific data and communicating said record to a transmitter; and

transmitting said record to said at least one remote collection station.

Claim 76:

identifying at least one of a device and a control signal which operates to output a signal from a first storage location and store said signal at a second storage location;

monitoring said at least one of a device and a control signal;

storing a record of the use of said at least one of a device and a control signal; and

communicating said information from said record from said receiver station to said remote station.

Claim 77:

receiving at said at least one origination transmitter station said data to be transmitted by said at least one remote intermediate transmitter station and delivering said data to at least one origination transmitter, said data comprising an instruct signal which is effective in said network to output a signal from a first storage location and store said signal at a second storage location;

receiving said control signal which operates at said at least one remote intermediate transmitter station to control the communication of said data; and

transmitting said control signal to said at least one origination transmitter before a specific time.

Claim 78:

receiving a first code at a transmitter station, wherein said first code designates one of a product or service offered in a mass medium program and a viewer reaction to an offer communicated in a mass medium program;

receiving a second code at said transmitter station, wherein said second code operates at said plurality of receiver stations to output a signal from a first storage location and store said signal at a second storage location;

transferring said first code and said second code to a transmitter at said transmitter station; and

transmitting said first code and said second code.

Claim 79:

receiving data to be transmitted and delivering said data to a transmitter;

receiving an instruct signal which operates at at least one of said plurality of receiver stations to output a signal from a first storage location and store said signal at a second storage location;

transferring said instruct signal to said transmitter; and

transmitting an information transmission comprising said data and said instruct signal.

Claim 80:

outputting a mass medium program that promotes data, said interactive mass medium program output apparatus having an input device to receive input from a subscriber;

prompting said subscriber during said mass medium program whether said subscriber wants said data promoted in said step of outputting, said interactive mass medium program output apparatus having a memory for storing code;

receiving a reply from said subscriber at said input device in response to said step of prompting, said interactive mass medium program output apparatus having a processor for processing said subscriber reply and said data;

processing said reply and selecting code designating said data, said interactive mass medium program output apparatus having a transmitter for communicating information to a remote station;

communicating said selected code to said remote station, said interactive mass medium output apparatus and said remote station comprising a network having a plurality of transmitter stations;

assembling, in said network, a signal which is effective at said interactive mass medium program output apparatus to store said data at said memory, said interactive mass medium program output apparatus having a receiver for receiving at least a portion of said signal from said remote station;

delivering at least a portion of said signal at said interactive mass medium program output apparatus; and

delivering said data on the basis of said signal.

Claim 84:

detecting one of the presence and absence of a first control signal;
inputting an instruct-to-react signal to said processor based on said step of detecting;
controlling said processor to perform a second function and to output information in response to said step of inputting; and
selecting data and generating a second control signal based on said step of controlling, said second control signal being effective to communicate said selected data to a storage device on the basis of said information.

Claim 88:

inputting said identification information that identifies said television programming;
inputting said television programming to said storage device;
storing said television programming at a selected one of said at least two storage locations; and
storing said identification information with said television programming at said selected location; and
identifying said television programming on the basis of identification information associated in storage with said television programming.

Claim 90:

inputting identification information that specifies a unit of said television programming;
inputting said unit of said television programming associated with said inputted identification information;
identifying said unit of said television programming;

storing said unit at said first storage location; and
storing said identification information at said second storage location, thereby to enable said station to identify said unit stored in the first storage location on the basis of identification information stored in said second storage location.

Claim 91:

inputting schedule information that identifies one of a category and a unit of said television programming;

inputting said television transmission;

locating identification information in said transmission that identifies said one of a category and a unit of said television programming;

storing said television transmission at a first storage device;

determining that said identification information identifies said one of said category and a unit of said television programming;

transferring information of said television programming transmission to a second storage device; and

storing said information of said television programming at said second storage device, thereby enabling said station to broadcast and/or cablecast television programming of said one of a category and a unit of said television programming.

Claim 100:

inputting an instruct signal which is effective at said subscriber station to select and control communication of a datum which identifies information contained in a program;

detecting the presence of at least one of an instruction, code and datum, associated with said instruct signal, which is effective at the subscriber station to one of generate

subscriber station specific data and to select and assemble a plurality of specific and subscriber station specific data into a record;

processing at the subscriber station inputted data and performing, in response to said detected instruction, one of:

(a) generating said subscriber station specific data and communicating said generated subscriber station specific data to a transmitter; and

(b) selecting and assembling into said record a specific plurality of said subscriber specific data and communicating said record and said selected specific plurality of said subscriber specific data to a transmitter; and

transmitting one of said communicated generated subscriber station specific data and said communicated record and specific plurality of said subscriber specific data to said at least one remote collection station.

Claim 101:

receiving information transmissions;

detecting a plurality of signals in at least one of said information transmissions, at least one of said detected plurality of instruct signals being effective at said receiver station to instruct;

passing each of said detected instruct signals to a computer;

controlling said computer on the basis of each of said detected and passed instruct signals;

selecting and controlling communication, under computer control and in response to at least a first of said detected and passed instruct signals, of a datum that identifies information contained in a program; and

storing information evidencing the passing of at least a second of said detected and passed instruct signals.

Claim 103:

receiving mass medium programming to be transmitted by said remote intermediate mass medium transmitter station and delivering said mass medium programming to a transmitter;

receiving at least one instruct signal at said remote intermediate mass medium transmitter station, wherein said at least one instruct signal operates at said remote receiver station to select and control communication of a datum which identifies information contained in said mass medium programming, and communicating said at least one instruct signal to said transmitter;

receiving at least one control signal at said remote intermediate mass medium transmitter station, said at least one control signal operates at said remote intermediate mass medium transmitter station to control communication of one of said mass medium programming and said at least one instruct signal; and

transmitting from said remote intermediate mass medium transmitter section an information transmission comprising said mass medium programming and said at least one instruct signal, said mass medium programming and said at least one instruct signal transmitted in accordance with said at least one control signal.

Claim 104:

receiving a mass medium program at said remote transmitter station and delivering said mass medium program to a transmitter;

receiving at said remote transmitter station at least one instruct signal which operates to select and control communication of one of a code and datum which identifies information contained in said mass medium program;

receiving a control signal which operates at said remote transmitter station to control communication of at least one instruct signal and communicating said control signal to said remote transmitter station;

receiving said one of a code and a datum designating a specific instruct signal of said at least one instruct signal to be transmitted by said remote transmitter station, and said remote transmitter station transferring said designated specific instruct signal to a transmitter; and

transmitting from said remote transmitter station an information transmission comprising said mass medium program and said designated specific instruct signal, said designated specific instruct signal being transmitted at one of specific times and on specific channels.

Claim 105:

receiving at least one of a code and a datum at a transmitter station, wherein said one of a code and a datum designates at least one of a product and a service offered in said television program and said subscriber reaction;

receiving said at least one control signal at said transmitter station, said at least one control signal at said at least one of said plurality of receiver stations operates to select and control communication of information at least one of received with and to be associated with said television program;

transferring at least one of (i) said at least one of a code and a datum and (ii) said at least one control signal to a transmitter at said transmitter station at a specific time; and

transmitting (i) said at least one of a code and a datum and (ii) said at least one control signal from said transmitter station.

Claim 106:

receiving a television program at a transmitter station and delivering said television program to a transmitter;

receiving said at least one instruct signal at said transmitter station, said at least one instruct signal at said at least one receiver station operates to select and control

communication of a datum which identifies information contained in said television program;

transferring said at least one instruct signal from said transmitter station to a transmitter; and

transmitting said television program and said at least one instruct signal from said transmitter station to said at least one receiver station.

Claim 107:

transmitting from said origination stations said programming, said programming including at least one signal for comparison; transmitting at least one retransmission control signal from said origination stations;

said intermediate transmission station receiving said programming; detecting and passing to said automatic control unit said at least one retransmission control signal; and

said automatic control unit performing the step of selectively transferring said programming to said transmitter in accordance with said at least one retransmission control signal.

Claim 108:

receiving said signal outside said network, said signal having at least one first instruction which is operative in said network to output said signal from a first storage location and store said signal at a second storage location;

receiving at least one second instruction outside said network, said at least one second instruction operative at said remote intermediate transmitter station to control communication of said signal; and

transmitting said signal and said at least one second instruction to said network before a specific time.

Claim 130:

programming said remote intermediate transmitter station to control communication of and deliver said at least one signal at said at least one intermediate transmitter in response to at least one detected instruction;

programming said remote intermediate transmitter station to detect said at least one first instruction and said at least one second instruction; and

programming said network to detect and respond to an instruction which is operative in said network to output said at least one signal from a first storage location and store said at least one signal at a second storage location before a specific time.

Claim 152:

receiving said data outside said network, said data including an instruct signal which is effective in said network to output said data from a first storage location and store said data at a second storage location;

receiving said at least one control signal outside said network, said at least one control signal operative at said remote intermediate transmitter station to control communication of said data; and

transmitting said at least one control signal to said network before a specific time.

Claim 153:

receiving an information transmission;

detecting embedded data on said information transmission;

selecting a specific datum of said detected data; and

storing said selected datum at a storage location of a storage device that is not communicating or outputting data to said television monitor, said step of storing enabling said storage device to communicate or output said selected datum to a processor in

response to a control signal and said television monitor to display in television programming at a selected time processed information of said selected datum.

Claim 178:

receiving a carrier transmission;

demodulating said carrier transmission to detect an information transmission thereon, said information transmission comprising embedded data and at least one control signal;

detecting said embedded data and said at least one control signal on said information transmission;

selecting at least one datum of said detected embedded data; and

storing said selected at least one datum at a storage location of a storage device that is not communicating or outputting said detected embedded data to said television monitor;

processing said at least one datum in response to said at least one control signal; and

outputting processed information of said at least one datum to a subscriber.

Claim 180:

receiving a television or radio signal;

demodulating said received signal to detect an information transmission thereon, said information transmission comprising radio or television programming and embedded data;

detecting said embedded data in said information transmission;

selecting a specific datum of said detected data;

storing said selected datum;

processing said at least one datum; and
outputting a control signal containing processed information of said at least one datum.

Claim 188:

receiving a television or radio signal;
demodulating said received signal to detect an information transmission thereon, said information transmission containing radio or television programming, embedded data, and at least a first control signal;
detecting said embedded data in said information transmission, said embedded data comprising at least identification information identifying programming;
selecting one of said plurality of storage locations;
storing said received television or radio signal.

Claim 192:

receiving a television or radio signal;
demodulating said received signal to detect an information transmission thereon, said information transmission comprising a programming unit of radio or television programming and embedded data;
detecting said embedded data in said information transmission;
selecting a storage location;
storing said programming unit and said embedded data in said selected storage location in response to said step of detecting said embedded data.

Claim 201:

receiving a television or radio signal;

demodulating said received signal to detect an information transmission thereon, said information transmission comprising a unit of radio or television programming and embedded data;

detecting said embedded data in said information transmission;

determining, based on said embedded data, whether said received unit of programming should be stored or is designated for delayed communication;

performing the following steps if said received unit of programming should be stored or is designated for delayed communication:

- (a) selecting a storage location; and
- (b) storing said programming unit and its embedded data in the selected storage location.

Claim 202:

receiving a multichannel transmission, each received channel transmission of said multichannel transmission comprising information and an identification signal identifying said information or a source of said information;

scanning a plurality of channels of said multichannel transmission for a predetermined identification signal that identifies information of interest;

detecting said predetermined identification signal on one of said plurality of channels;

identifying a channel of said detected predetermined identification signal;

tuning to said identified channel to receive said information of interest based on said step of identifying;

receiving said information of interest; and

storing said received information of interest.

Claim 205:

a receiver for receiving and demodulating a carrier transmission, said carrier transmission comprising embedded data;

a detector operatively connected to said receiver for detecting the embedded data in the carrier transmission;

a storage device having a plurality of storage locations;

a television monitor; and

a computer operatively connected to said receiver, said detector, said storage device and said monitor, said computer programmed to perform the following steps:

(a) selecting a datum of the detected data;

(b) identifying the datum;

(c) storing the selected datum in the storage device with an identification signal identifying the datum to enable the subsequent identification of the datum based on the identification signal;

(d) receiving information from the detector indicating that the detector has received a control signal, and performing the following steps (e)-(g) in response to said step (d);

(e) identifying the stored selected datum based on the stored identification signal;

(f) processing the selected datum; and

(g) displaying the processed datum on the television monitor.

Claim 206:

storing data at said remote data source;

receiving at said remote data source a query from said receiver station;

transmitting said data from said remote data source to said receiver station in response to said step of receiving said query, said receiver station selecting and storing some of said transmitted data;

transmitting from a second remote source to said receiver station a signal which controls said receiver station to select and process an instruct signal which is effective at said receiver station to output a stored datum for processing and use with a video image.

Claim 207:

receiving a broadcast or cablecast information transmission including a first instruct signal which is effective to store a datum for subsequent processing and use with a video image;

storing user data of interest in response to said first instruct signal;

receiving mass medium programming from a programming source and outputting said mass medium programming at said output device;

detecting a second instruct signal and passing said detected second instruct signal to said computer; and

controlling said computer based on said detected second instruct signal, said step of controlling comprising:

- (1) selecting a specific portion of said stored user data of interest;
- (2) communicating said selected specific portion of said stored user data of interest to said output device; and subsequently
- (3) ceasing to communicate said selected specific portion to said output device;
- (4) delivering at said output device said combined or sequential output of said received mass medium programming and said selected specific portion of said stored user data of interest in the period of time between said step of communicating said selected specific portion to said output device and said step of ceasing to communicate said selected specific portion to said output device.

Claim 208:

receiving code or datum at a transmitter station, said code or datum designates (i) a product or service offered in said television program or (ii) said subscriber reaction;

receiving one or more control signals at said transmitter station, said one or more control signals at said one or more receiver stations operate to store said code or datum for subsequent processing and use with a video image;

transferring said code or datum or said one or more control signals to a transmitter at said transmitter station at a specific time; and

transmitting said code or datum and said one or more control signal from said transmitter station.

Claim 209:

receiving a television signal containing television programming and communicating said television signal to a storage device;

receiving an instruct signal which is to be effective to select and store a datum for processing and use with said television signal;

selecting one of:

- (1) a time at which to communicate said instruct signal; and
- (2) a location to which to communicate said first instruct signal;

communicating said instruct signal at said selected time or to said selected location; and

storing said television signal and said instruct signal at said storage device, wherein said method processes signals to control said subsequent presentation of said television programming.

Claim 210:

receiving data to be transmitted and delivering said data to a transmitter;

receiving one or more instruct signals which at said one or more receiver stations are effective to store a datum for subsequent processing and use with a video image;
transferring said one or more instruct signals to a transmitter; and
transmitting an information transmission comprising said data and said one or more instruct signals.

Claim 211:

outputting a mass medium program that promotes data, said interactive mass medium program output apparatus having an input device to receive input from a subscriber;

prompting said subscriber during said mass medium program whether said subscriber wants said data promoted in said step of displaying, said interactive mass medium program output apparatus having an output device for outputting said data;

receiving a reply from said subscriber at said input device in response to said step of prompting said subscriber, said interactive mass medium program output apparatus having a processor for processing said subscriber reply and controlling delivery of said data in response to instructions;

delivering instructions at said interactive mass medium program output apparatus in response to said step of receiving a reply, said instructions controlling said interactive mass medium program output apparatus;

processing said instructions from said step of delivering, said instructions effective to receive and store said data; and

delivering said data on the basis of said instructions.

Claim 214:

receiving first data and first television programming, said first television programming including audio , said first television programming to be outputted for a

duration of time, only a portion of said duration containing at least a first time interval of specific relevance, at least a first of said first data and said first television programming being received from at least a first remote transmitter station;

delivering at least said audio to said at least one output device for output to a user;

detecting said first data before a first time period during which user specific information will be processed;

delivering said first data to said computer;

generating second data to serve as a basis for delivering said user specific programming by processing at least a first of said first data in said first time period;

selecting third data based on said step of generating said second data;

communicating at least a first of said third data to said at least one output devices before the end of said first time interval of specific relevance; and

outputting said user specific programming, said user specific programming including at least said audio and said at least a first of said third data.

Claim 215:

receiving one or more of (i) said first data, and (ii) television programming at one or more transmitter stations, said television programming to be outputted for a duration of time, only a portion of said duration containing a time interval of specific relevance;

transferring said one or more of (i) said first data, and (ii) television programming to one or more transmitters at a specific time; and

transmitting from said one or more transmitter stations one or more information transmissions comprising said one or more of (i) said first data, and (ii) television programming.

Claim 216:

receiving one or more of (i) said first data, and (ii) television programming at one or more transmitter stations, said television programming to be outputted for a duration of time, only a portion of said duration containing a time interval of specific relevance;

receiving a control signal which operates at said one or more transmitter stations to communicate said one or more of (i) said first data, and (ii) television programming to one or more transmitters to a transmitter; and

transmitting from said one or more transmitter stations one or more information transmissions comprising said one or more of (i) said first data, and (ii) television programming.

Claim 217:

receiving one or more information transmissions containing first data and first television programming, said first television programming to be outputted for a duration of time, only a portion of said duration containing at least a first time interval of specific relevance, at least one of said first data and said first television programming being received from at least a first remote transmitter station;

selecting and delivering said first television programming to said at least one output device for output to said user;

detecting said first data before a first time period during which user specific information will be processed and delivering said first data to said computer;

generating second data to serve as a basis for delivering said user specific programming by processing at least one of said first data in said first time period;

communicating said second data to said at least one output device before the end of said first time interval of specific relevance based on said step of generating second data; and

outputting said user specific programming, said user specific programming comprising said first television programming and said second data.

Claim 218:

inputting at least one control instruction, said at least one control instruction controlling at least one of processing and communication of at least one of television, radio, video, audio, data, multimedia, and computer programming, wherein said at least one control instruction includes at least one of:

(a) a switch control instruction to control operation of a switch to control routing and communication of said at least one of television, radio, video, audio, data, multimedia, and computer programming;

(b) a timing control instruction to control at least one of timing and time of communication of said at least one of television, radio, video, audio, data, multimedia, and computer programming; and

(c) a locating control instruction to at least one of control and allow said computer to at least one of locate and identify said at least one of television, radio, video, audio, data, multimedia, and computer programming;

receiving said at least one of television, radio, video, audio, data, multimedia, and computer programming, wherein said inputted at least one control instruction provides at least one of instruction and information as to processing of said received at least one of television, radio, video, audio, data, multimedia, and computer programming;

storing said received at least one of television, radio, video, audio, data, multimedia, and computer programming; and

storing said at least one control instruction with said at least one of television, radio, video, audio, data, multimedia, and computer programming to enable said computer to subsequently at least one of communicate and process said at least one of television, radio, video, audio, data, multimedia, and computer programming in accordance with said at least one control instruction.

Claim 221:

inputting at least one of television, radio, video, audio, data, multimedia, and computer programming;

storing said inputted at least one of television, radio, video, audio, data, multimedia, and computer programming at one of said plurality of storage locations;

receiving a carrier transmission;

demodulating said carrier transmission to detect an information transmission thereon, said information transmission including at least one control instruction, wherein said at least one control instruction includes one of:

- (a) a switch control instruction;
- (b) a timing control instruction; and
- (c) a locating control instruction;

detecting said at least one control instruction on said information transmission, said at least one control instruction providing information as to processing of said stored at least one of television, radio, video, audio, data, multimedia, and computer programming;

storing said at least one control instruction at said one of said plurality of storage locations with said stored at least one of television, radio, video, audio, data, multimedia, and computer programming enabling said computer to at least one of locate, process, and communicate said at least one of television, radio, video, audio, data, multimedia, and computer programming at a specific time or in a specific manner in accordance with said at least one control instruction.

Claim 223:

inputting and storing at least one control instruction including at least one of:

- (1) an instruction to contact a remote telephone unit;
- (2) an instruction to look for a signal in a predetermined fashion;

- (3) an instruction to erase information in a recorder;
- (4) an instruction to decrypt a signal in a specific fashion;
- (5) an instruction to identify a signal;
- (6) an instruction to pass a signal externally;
- (7) an instruction to identify where to pass a signal;
- (8) an instruction to discard a signal;
- (9) an instruction to mark a signal;
- (10) an instruction to assemble a signal string;
- (11) an instruction to configure a switch;
- (12) an instruction to transfer a signal;
- (13) an instruction to store a signal;
- (14) an instruction to remove a signal;
- (15) an instruction to add a signal;
- (16) an instruction to decrypt a signal;
- (17) an instruction not to decrypt a signal;
- (18) an instruction to interrupt a signal;
- (19) an instruction not to interrupt a signal;
- (20) an instruction informing how to decrypt a signal;
- (21) an instruction informing how to interrupt a signal;
- (22) an instruction to turn on an apparatus;
- (23) an instruction to tune an apparatus;
- (24) an instruction to hold a signal;
- (25) an instruction to monitor a signal;
- (26) an instruction to present a signal;
- (27) an instruction to coordinate a signal;
- (28) an instruction to generate a signal;
- (29) an instruction to transmit a signal upon command;

- (30) an instruction to transmit a specific signal;
- (31) an instruction to overlay a signal;
- (32) an instruction to process if a signal is held;

receiving at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission, wherein said at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission includes an information code and one of said at least one control instruction;

detecting said information code and said one of said at least one control instruction in said at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission, said information code designating at least one of:

- (1) said programming;
- (2) use of said programming;
- (3) a transmitter station;
- (4) said receiver station ;
- (5) a network;
- (6) a broadcast station;
- (7) at least one of a channel on a cable system;
- (8) a time of transmission;
- (9) a unique identifier datum;
- (10) at least one of a source of data and a supplier of data;
- (11) at least one of a distributor and an advertisement;

storing said detected information code and said detected at least one control instruction together at a storage location to enable a computer at said receiver station to identify and at least one of communicate and process said programming in accordance with said information code and said at least one control instruction.

Claim 224:

receiving at least one of television programming and radio programming;
selecting one of a plurality of storage locations;
storing said at least one of television programming and radio programming at said selected one of said plurality of storage locations;
storing an identification signal identifying said at least one of television programming and radio programming with said at least one of television programming and radio programming at said selected one of said plurality of storage locations;
decoding said stored identification signal;
identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio programming based on said step of decoding said stored identification signal; and
communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to a subscriber based on said step of identifying.

Claim 238:

receiving at least one of television programming and radio programming;
selecting one of a plurality of storage locations;
storing said at least one of television programming and radio programming at said selected one of said plurality of storage locations;
storing information identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio programming;
decoding said stored information;

identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio programming based on said step of decoding said stored information; and

communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to a subscriber in response to said step of identifying.

Claim 242:

receiving at least one of television programming and radio programming with an identification signal;

embedding said identification signal in said received at least one of television programming and radio programming;

selecting one of a plurality of storage locations;

storing said at least one of television programming and radio programming with said embedded identification signal at said selected one of said plurality of storage locations;

receiving and storing a programming schedule designating when and on what channel or frequency said at least one of television programming and radio programming should be communicated to a subscriber;

decoding said stored identification signal;

identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio programming based on said step of decoding said stored identification signal;

configuring a switch to allow communication of said at least one of television programming and radio programming from said selected one of said plurality of storage locations to the subscriber according to said programming schedule; and

communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to the subscriber via said switch according to said programming schedule.

Claim 244:

a programming storage device for storing at least one of radio programming and television programming;

an input device for inputting said at least one of radio programming and television programming;

a signal detector operatively connected to said programming storage device for detecting signals stored in said programming storage device;

a communicator, operatively connected to said programming storage device, for communicating said at least one of radio programming and television programming and other information to a subscriber;

a computer operatively connected to said input device, said signal detector and said communicator, wherein said computer is programmed to perform the following steps:

(a) receiving said at least one of radio programming and television programming from said input device;

(b) receiving information identifying said received at least one of radio programming and s television programming;

(c) selecting one of a plurality of storage locations on said programming storage device;

(d) outputting said received at least one of radio programming and television programming to said programming storage device and controlling said programming storage device to store said outputted at least one of radio programming and television programming at said selected storage location of said programming storage device;

- (e) outputting the information identifying said at least one of radio programming and television programming to said programming storage device and controlling said programming storage device to store the information with said stored at least one of radio programming and television programming at said selected storage location;
- (f) causing said signal detector to detect the identifying information stored on said programming storage device;
- (g) determining said selected storage location of said stored at least one of radio programming and television programming based on said step (f);
- (h) controlling said programming storage device to output said stored at least one of radio programming and television programming from said selected storage location to said communicator; and
- (i) controlling said communicator to communicate said at least one of radio programming and television programming to said subscriber.

Claim 254:

receiving, at a transmitter station, at least a portion of said downloadable code which is effective to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming, wherein said downloadable code has a target processor to process data at each of said plurality of receiver stations;

transferring said downloadable code to a transmitter;

receiving said at least one control signal at said transmitter station, wherein said at least one control signal operates to execute said downloadable code; and

transferring said at least one control signal from said transmitter station to said transmitter, and transmitting at least one information transmission including said downloadable code and said at least one control signal.

Claim 255:

inputting a subscriber reaction at a subscriber station;
receiving, at said subscriber station, information that designates at least one of:
(a) said at least one instruct signal to process; and
(b) an output to deliver in consequence of said inputted subscriber reaction;
determining the presence of said inputted subscriber reaction at said subscriber station by processing said inputted subscriber reaction;

processing said at least one instruct signal which is effective to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming at said subscriber station in consequence of said step of determining; and

transferring, from said subscriber station to said at least one remote data collection station, at least one datum that confirms at least one of:

- (a) delivery of said at least one instruct signal from said step of processing;
and
(b) delivery of said effect from said step of processing.

Claim 256:

identifying said at least one of a resource and a control signal which is effective to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;

monitoring said at least one of a resource and a control signal;
storing a record of use of said at least one of a resource and a control signal from said step of monitoring; and
communicating information on said use of said at least one of a resource and a control signal from said step of storing a record from said receiver station to a remote station.

Claim 257:

receiving said at least one instruct signal to be transmitted by said remote intermediate data transmitter station and delivering said at least one instruct signal to said at least one origination transmitter, wherein said at least one instruct signal is effective in said network to store at least one control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;

receiving said at least one control signal which at the remote intermediate data transmitter station operates to control communication of said at least one instruct signal; and

transmitting said at least one control signal from said at least one origination transmitter before a specific time.

Claim 258:

receiving, at said remote transmitter station, at least one instruct signal which operates at the receiver station to:

(a) store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio

programming, data programming, multimedia programming, and computer programming;
and

(b) at least one of assemble and communicate said at least one receiver
specific datum to said remote data collection station;

receiving at least one control signal which operates at said remote transmitter
station to control communication of said at least one instruct signal and communicating
said at least one control signal to said remote transmitter station;

receiving at least one of a code and a datum designating a specific one of said at
least one instruct signal to be transmitted by said remote transmitter station, and wherein
said transmitter station transfers said designated specific one of said at least one instruct
signal to a transmitter; and

transmitting from said remote transmitter station an information transmission
including at least one designated instruct signal, wherein said at least one designated
instruct signal is transmitted at at least one specific time or on at least one specific
channel in accordance with said at least one control signal.

Claim 259:

receiving said mass medium programming at said receiver station from a mass
medium programming source and outputting said mass medium programming at said at
least one output device, said at least one output device adapted to output said mass
medium programming;

receiving one of a broadcast information transmission and a cablecast information
transmission at said receiver station, wherein said one of a broadcast information
transmission and a cablecast information transmission includes at least one instruct signal
to direct said at least one output device to at least one of complete and supplement said
mass medium programming;

detecting said at least one instruct signal in said one of a broadcast information transmission and a cablecast information transmission and passing said detected at least one instruct signal to a processor; and

controlling said processor based on said detected at least one instruct signal, said step of controlling further comprising the steps of:

(a) storing a control instruction for subsequent processing and use to at least one of complete and supplement said mass medium programming; and

(b) directing said output to at least one of complete and supplement said mass medium programming to said at least one output device in consequence of said control instruction.

Claim 260:

receiving at least one instruct signal at a transmitter station and delivering said at least one instruct signal to a transmitter, wherein said at least one instruct signal is effective at said at least one of said plurality of receiver stations to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;

receiving at least one of a code and a datum at said transmitter station, wherein said at least one of a code and a datum designates at least one of said control instruction and said subscriber reaction to said offer;

receiving said at least one control signal at said transmitter station, wherein said at least one control signal operates at said at least one of said plurality of receiver stations to execute said control instruction for processing and use with said at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;

transferring said at least one of a code and a datum and said at least one control signal to said transmitter at said transmitter station at a specific time; and

transmitting said at least one instruct signal, said at least one of a code and a datum, and said at least one control signal from said transmitter station.

Claim 261:

receiving programming that contains video information;

receiving an instruction, said instruction designating supplemental programming material and having effect at a receiver station to store a control instruction for subsequent processing and use with said programming;

embedding said instruction, said step of embedding translating said instruction to a control signal, wherein said control signal directs an ancillary processor to perform the coordination of said supplemental programming material indicated by said instruction with said programming; and

storing said control signal from said step of embedding, said control signal stored in conjunction with said programming, wherein said supplemental programming material and said ancillary processor are operative to store said control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming, wherein said method generates and embeds said signals.

Claim 262:

receiving, at one of a broadcast transmitter station and a cablecast transmitter station, said at least one instruct signal which is effective at said at least one of said plurality of receiver stations to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming,

audio programming, data programming, multimedia programming, and computer programming;

delivering said at least one instruct signal to a transmitter;

receiving, at said one of a broadcast transmitter station and a cablecast transmitter station, at least one control signal which at said at least one of said plurality of receiver stations operates to communicate at least one of said at least one instruct signal and said control instruction to a specific processor; and

transferring said at least one control signal to the transmitter, wherein said transmitter transmits said at least one instruct signal and said at least one control signal.

Claim 263:

storing one of television programming and radio programming at a first storage location in said network, said one of television programming and radio programming including at least audio;

transferring, under computer control, said one of television programming and radio programming from said first storage location to a second storage location at a selected one of said at least one intermediate station;

storing said one of television programming and radio programming at said second storage location to enable said selected one of said at least one intermediate station to communicate said stored one of television programming and radio programming from said second storage location to a subscriber station;

communicating a programming identification signal from said origination station to said selected one of said at least one intermediate station, said programming identification signal identifying said one of television programming and radio programming stored at said second storage location;

detecting, at said selected one of said at least one intermediate station, said programming identification signal communicated from said origination station;

communicating said one of television programming and radio programming identified by said programming identification signal from said second storage location to said subscriber station based on said step of detecting said programming identification signal.

Claim 283:

storing one of television programming and radio programming at a first storage location at a first station of said plurality of stations in said network, said one of television programming and radio programming including at least audio;

transferring, under computer control, said one of television programming and radio programming from said first storage location of the first station to a second storage location of a second one of the plurality of stations of said network;

storing said one of television programming and radio programming at said second storage location to enable selective transmission of said one of television programming and radio programming from said second station to a third station of said plurality of stations.

Claim 289:

an origination station including a transmitter for transmitting one of television programming and radio programming with programming identification signals, said one of television programming and radio programming including at least audio;

a plurality of intermediate stations for receiving, processing and selectively retransmitting said one of television programming and radio programming with said programming identification signals received from said origination station, each of said plurality of intermediate stations including:

(a) a receiver for receiving said one of television programming and radio programming with said programming identification signals from said origination station;

- (b) a signal detector for detecting said programming identification signals;
- (c) a plurality of programming storage devices for storing said one of television programming and radio programming;
- (d) a computer operatively connected to said receiver, said signal detector and said plurality of programming storage devices, said computer programmed to perform the following steps:

- (1) identifying said one of television programming and radio programming received by said receiver based on said programming identification signal detected by said signal detector;

- (2) routing said identified one of television programming and radio programming to a first of said plurality of programming storage devices;

- (3) controlling said first of said plurality of programming storage devices to store said identified one of television programming and radio programming on said first of said plurality of programming storage devices;

- (4) transferring said identified one of television programming and radio programming from said first of said plurality of programming storage devices to a second of said plurality of programming storage devices;

- (5) controlling said second of said plurality of programming storage devices to store said identified one of television programming and radio programming on said second of said plurality of programming storage devices; and

- (6) communicating said identified one of television programming and radio programming from said second of said plurality of programming storage devices to a subscriber station; and

said subscriber station including a receiver for receiving programming and signals.

Claim 290:

an origination station including a transmitter for transmitting one of television programming and radio programming with programming identification signals, said one of television programming and radio programming including at least audio;

a plurality of intermediate stations for receiving, processing and selectively retransmitting said one of television programming and radio programming with the programming identification signals received from said origination station, each of said plurality of intermediate stations including:

(a) a receiver for receiving said one of television programming and radio programming with the programming identification signals from said origination station;

(b) a signal detector for detecting the programming identification signals;

(c) a plurality of programming storage devices for storing said one of television programming and radio programming;

(d) a computer operatively connected to said receiver, said signal detector and said plurality of programming storage devices, said computer programmed to perform the following steps:

(1) selecting said one of television programming and radio programming received by said receiver based on the programming identification signals detected by said signal detector;

(2) routing the selected one of television programming and radio programming to a first of said plurality of programming storage devices;

(3) controlling said first of said plurality of programming storage devices to store the selected one of television programming and radio programming on said first of said plurality of programming storage devices;

(4) transferring the selected one of television programming and radio programming from said first of said plurality of programming storage devices to a second of said plurality of programming storage devices;

(5) controlling said second of said plurality of programming storage devices to store the selected one of television programming and radio programming on said second of said plurality of programming storage devices; and

(6) communicating the selected one of television programming and radio programming from said second of said plurality of programming storage devices to a subscriber station; and

the subscriber station comprising a receiver for receiving programming.

Claim 291:

receiving, at said receiver, identification signals that identify specific signal content for at least one of a plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions;

providing a comparison signal to said processor;

comparing said comparison signal to said received identification signals and generating a control signal identifying a desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions;

tuning the receiver, based on the generated control signal, to receive said desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions; and

performing one of:

(1) responding to an instruct signal detected in said desired signal transmission which is effective to control communication of the mass medium programming;

(2) selecting and storing at least one datum received in said desired signal transmission, said at least one datum in respect of the mass medium programming; and

(3) controlling one of the receiver and a selective transfer device to communicate to one of an output device and a storage device a portion of the mass

medium programming received in said desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions.

Claim 292:

receiving said mass medium programming to be transmitted by said remote intermediate mass medium programming transmitter station and delivering said mass medium programming to said at least one origination transmitter, said mass medium programming having at least one of a code and a datum which is operative to identify and control communication of said mass medium programming in said network;

receiving said at least one control signal which at said remote intermediate mass medium programming transmitter station operates to control communication of said mass medium programming; and

transmitting said at least one control signal from said at least one origination transmitter before a specific time.

Claim 293:

receiving said programming to be transmitted at a transmitter station and delivering said programming to a transmitter;

receiving and storing said at least one instruct signal at said transmitter station, said at least one instruct signal at the at least one receiver station operating to identify and control communication of said programming;

transferring said at least one instruct signal to said transmitter; and

transmitting from said transmitter station an information transmission including said programming and said at least one instruct signal.

Claim 294:

outputting mass medium programming that promotes a specific fashion of presenting data, said interactive mass medium programming output apparatus having an input device to receive input from a subscriber;

prompting said subscriber during said mass medium programming whether said subscriber wants data presented in said specific fashion promoted in said step of outputting, said interactive mass medium programming output apparatus having an output device for outputting said data presented in said specific fashion;

receiving a reply from said subscriber at said input device in response to said step of prompting said subscriber, said interactive mass medium programming output apparatus having a processor for processing said subscriber reply and controlling delivery of said data in response to instructions;

delivering instructions at said interactive mass medium programming output apparatus in response to said step of receiving the reply, said instructions controlling said interactive mass medium programming output apparatus;

processing said instructions from said step of delivering, said instructions effective to store and subsequently process said data; and

presenting said data on the basis of said instructions.

Claim 302:

detecting one of the presence and the absence of one of a broadcast control signal and a cablecast control signal;

inputting an instruct-to-react signal to a processor based on said step of detecting;

controlling said processor to output specific information in response to said step of inputting; and

processing stored data and generating a first control signal in respect of a mass medium programming presentation on the basis of information received from said processor based on said step of controlling.

Claim 320:

receiving and storing schedule information that identifies a plurality of scheduled units of television programming and designates a communication schedule for each of said plurality of scheduled units of television programming;

receiving a television transmission, said transmission comprising at least a portion of said plurality of units of television programming and identification information identifying each of said received units of television programming;

storing said received units of television programming and said identification information on a first storage device;

detecting said identification information stored at a first storage location on said first storage device;

determining that said detected identification information identifies a scheduled unit of said plurality of scheduled units of television programming; and

communicating said scheduled unit of television programming to a subscriber.

Claim 321:

receiving a unit of programming;

scheduling a time for transmitting the unit of programming and a channel or frequency for transmitting the unit of programming;

encoding an identification signal in the unit of programming;

storing the unit of programming including the encoded identification signal in a first storage location;

transferring the unit of programming including the encoded identification signal to a second storage location;

storing the transferred unit of programming including the encoded identification signal in the second storage location;

transmitting the unit of programming including the encoded identification signal from the second storage location to a subscriber at the scheduled time and on the scheduled channel or frequency according to said step of scheduling; and

verifying when and on which channel or frequency the unit of programming including the encoded identification signal was transmitted based on the encoded identification signal.

Claim 333:

receiving a unit of programming from a remote source;

scheduling a time for transmitting the unit of programming and a channel or frequency for transmitting the unit of program;

encoding an identification signal in the unit of programming;

storing the unit of programming including the identification signal on a first video recorder;

transferring the unit of programming including the identification signal to a second video recorder;

storing the transferred unit of programming including the identification signal in the second video recorder;

outputting the stored unit of programming including the identification signal from the second video recorder at the scheduled time;

connecting an output of the second storage device to a channel modulator corresponding to the scheduled channel or frequency;

modulating the unit of programming;

transmitting the modulated unit of programming to a subscriber over a cable network;

detecting the encoded identification signal in the transmitted unit of programming; and

generating a log identifying at least the unit of programming and when and on which channel or frequency the unit of programming was transmitted.

Claim 335:

a receiver for receiving an information transmission, said transmission comprising a unit of programming;

a first video recorder operationally connected to said receiver for storing the received unit of programming;

a second video recorder operationally connected to said second video recorder;

a switch operationally connected to said second video recorder;

a computer operationally connected to said video recorders and said switch;

a signal encoder operationally connected to said computer for encoding a signal into the unit of programming;

a channel modulator operationally connected to said switch for modulating the unit of programming output by said switch;

a cable network operationally connected to said modulator for transmitting the modulated unit of programming to a subscriber;

a verification circuit operationally connected to at least one of said switch and said modulator for verifying when and on which channel or frequency the modulated unit of programming is transmitted, said verification circuit comprising a signal decoder for decoding encoded signals on the modulated unit of programming;

said computer programmed to perform the following steps of:

(a) receiving and storing a programming schedule identifying when and on which channel or frequency the received modulated unit of programming should be transmitted to a subscriber;

(b) controlling the recorders to output the received modulated unit of programming from the first video recorder to the second video recorder;

- (c) controlling the second video recorder to store the modulated unit of programming outputted from the first video recorder;
- (d) controlling the second video recorder to output the modulated unit of programming at the scheduled time;
- (e) controlling the switch to connect the output of the second video recorder to the channel modulator to modulate the outputted modulated unit of programming onto the scheduled channel or frequency and to transmit the modulated unit of programming to the subscriber over the cable network.

Claim 338:

a receiver for receiving an information transmission, said transmission comprising a unit of programming;

a first video recorder operationally connected to said receiver for storing and outputting the unit of programming;

a second video recorder operationally connected to said first video recorder, said second recorder storing the unit of programming output by said first video recorder;

a switch operationally connected to said second video recorder;

a computer operationally connected to said first video recorder, said second video recorder and said switch for controlling said first video recorder to output the unit of programming to said second video recorder and controlling said second video recorder to output the unit of programming to said switch;

a signal encoder operationally connected to said computer for encoding a signal on the unit of programming;

a channel modulator operationally connected to said switch for modulating the unit of programming including the encoded signal output by said second video recorder through said switch;

a cable network operationally connected to said modulator for transmitting the modulated unit of programming to a subscriber; and

a verification circuit operationally connected to at least one of said switch and said modulator for verifying when and on which channel or frequency the modulated unit of programming is transmitted, said verification circuit comprising a signal decoder for decoding encoded signals on the modulated unit of programming.

Claim 339:

selecting a storage device from one of a plurality of programming storage devices;
storing a unit of programming at a storage location on the selected storage device;
storing information indicating that the unit of programming is stored on the selected storage device and indicating the storage location of the unit of programming on the selected storage device;

receiving a broadcast or cablecast transmission comprising an embedded signal, the embedded signal identifying the unit of programming or designating communication of the embedded signal to a subscriber;

detecting the embedded signal;

determining which of the plurality of programming storage devices is storing the unit of programming and the storage location of the unit of programming in response to the detected embedded signal, said step of determining being performed by a receiver station computer based upon (1) the detected signal and (2) the stored information indicating the storage device and the storage location storing the unit of programming;

outputting, under control of the receiver station computer, the unit of programming from the selected storage device in response to said step of determining;

embedding data identifying said outputted unit of programming in said outputted unit of programming;

communicating information from the receiver station to a subscriber comprising the outputted unit of programming and the embedded data;

detecting the embedded data in the information that is communicated from the receiver station;

generating a record or log indicating that the unit of programming was communicated based on said step of detecting the embedded data.

Claim 340:

storing a unit of television or radio programming at a first storage device;

transferring the unit of programming to a second storage device;

storing the unit of programming on the second storage device;

storing information indicating that the unit of programming has been transferred to the second storage device and that the unit of programming is now stored on the second storage device;

storing information indicating the storage location of the unit of programming on the second storage device;

receiving a broadcast or cablecast transmission comprising an embedded signal, said embedded signal identifying the unit of programming or designating its communication to a subscriber;

detecting the embedded signal;

determining which of the plurality of programming storage devices that is storing the unit and the storage location of the unit of programming in response to detecting the embedded signal, said step of determining being performed by a receiver station computer based upon (1) the detected signal and (2) the stored information indicating the storage device storing the unit of programming and the stored information indicating the storage location of the unit of programming;

outputting, under control of the receiver station computer, the unit of programming from the second storage device in response to said step of determining; embedding data identifying said outputted unit of programming in said outputted unit of programming; communicating information from the receiver station to a subscriber comprising the outputted unit of programming and the embedded data; detecting the embedded data in the information that is communicated from the receiver station; generating a record or log indicating that the unit of programming was communicated based on said step of detecting the embedded data.

Claim 341:

receiving at a subscriber station information that designates an instruction to be processed or an output to be delivered; receiving a user reaction to an output at said subscriber station; processing an instruct signal which is effective to identify and control communication of one of a unit of television programming and an output to supplement a television program at said subscriber station in response to said user reaction at said subscriber station, said processing at said subscriber station directed by instructions from said instruct signal; generating an indicium that said instruct signal was delivered or confirming identification and control of said one of a unit of television programming and an output; transferring said indicium from said subscriber station to one or more remote data collection stations.

Claim 342:

receiving said one or more first units of television programming to be transmitted by said remote intermediate television transmitter station and delivering said one or more first units of television programming to one or more origination transmitters, said one or more first units of television programming having one or more first codes or data to identify and control communication of said one or more first units of television programming;

receiving said one or more control signals which at said remote intermediate television transmitter station operate to control communication of said one or more first units of television programming based on said one or more first codes or data; and

transmitting said one or more control signals from said one or more origination transmitters before a specific time.

Claim 379:

(1) receiving one or more control signals which at said remote intermediate television transmitter station operates to control the communication of said plurality of units of television programming based on said one or more first codes or data; and

(2) transmitting said one or more control signals from said one or more origination transmitters before a specific time.

Claim 380:

receiving a signal at said receiver station receiver section;

processing said signal to extract a message from said plurality of messages based on said step of receiving;

storing said extracted message in a storage device; and

displaying said extracted message on a television display in response to a user input at said user input device.

Claim 382:

receiving a plurality of discrete signals at said subscriber station and inputting at least a portion of said plurality of discrete signals to said receiver station;

processing said plurality of discrete signals to extract at least one message based on the step of receiving;

storing said plurality of discrete signals in a storage device;

assembling said plurality of discrete signals into a signal comprising said at least one message; and

controlling said storage device to one of store said at least one message and communicate said at least one message.

Claim 383:

receiving mass medium programming and an instruct signal which is effective at the receiver station to at least one of extract and assemble said at least one message and delivering said mass medium programming and said instruct signal to a transmitter;

receiving said at least one message and communicating said at least one message to a signal embedder;

controlling said signal embedder to embed said at least one message in an information transmission in a pattern of said plurality of discrete signals, said pattern of said plurality of discrete signals having at least one of varying composition, varying timing, and varying location;

communicating said information transmission to said transmitter; and

transmitting said mass medium programming and said information transmission.

Claim 386:

receiving said at least one identification signal that identifies specific signal content for at least one of a plurality of concurrent transmissions, wherein said plurality

of concurrent transmissions comprises one of (i) a plurality of concurrent broadcast signal transmissions, (ii) a plurality of concurrent cablecast signal transmissions, and (iii) a plurality of concurrent broadcast and cablecast signal transmissions;

providing a comparison signal to said processor;

comparing said comparison signal to said at least one identification signal and generating a control signal identifying a desired signal transmission of said plurality of concurrent transmissions;

tuning the receiver, based on the generated control signal, to receive said desired signal transmission of said plurality of concurrent transmissions; and

performing one of:

responding to said control signal detected in said desired signal transmission, said control signal is operative to identify and communicate an electronic message;

selecting and storing at least one data received in said desired signal transmission, said at least one data comprising at least a portion of an electronic message; and

controlling one of a receiver and a selective transmission device to communicate to one of a output device and a storage device an electronic message received in said desired signal transmission.

Claim 387:

receiving said mass medium programming to be transmitted by the remote intermediate mass medium programming transmitter station and delivering said mass medium programming to a transmitter, said mass medium programming is operative to identify and communicate an electronic message;

receiving said at least one control signal at the remote intermediate mass medium programming transmitter station to control communication of said mass medium programming; and

transmitting said at least one control signal to said transmitter before a specific time.

Claim 389:

storing user data of interest;

receiving said mass medium programming at said receiver station from a mass medium programming source and outputting said mass medium programming to said at least one output device, said at least one output device adapted to output said mass medium programming;

receiving one of a broadcast information transmission and a cablecast information transmission at said receiver station, said one of a broadcast information transmission and a cablecast information transmission including at least one instruct signal to direct said selected output to supplement said mass medium programming;

detecting at least one instruct signal in said one of a broadcast information transmission and a cablecast information transmission and passing said detected at least one instruct signal to a processor; and

controlling said processor based on said detected at least one instruct signal, said step of controlling comprising the steps of:

- (a) identifying and communicating an electronic message to supplement said mass medium programming based on said stored user data of interest;
- (b) directing said electronic message to supplement said mass medium programming to said at least one output device.

Claim 391:

receiving one of a code and a datum at a transmitter station, wherein said one of a code and a datum designates one of (i) one of a product and a service offered in said mass

medium program and (ii) said viewer reaction to said specific offer communicated in said mass medium program;

receiving at least one control signal at said transmitter station, said at least one control signal operate to cause at least one receiver station of said plurality of receiver stations to identify and communicate an electronic message;

transferring said one of a code and a datum and said at least one control signal to a transmitter at said transmitter station at a specific time; and

transmitting said one of a code and a datum and said at least one control signal from said transmitter station.

Claim 392:

receiving a programming signal containing mass medium programming;

communicating said programming signal containing said mass medium programming to a storage device and storing said programming signal containing said mass medium programming in said storage device;

receiving downloadable executable code which is effective at a user station to control one of a processor and computer to identify and communicate an electronic message;

communicating said downloadable executable code to said storage device; and
storing said downloadable executable code in said storage device which stores said programming signal containing said mass medium programming.

Claim 393:

embedding said downloadable executable code in one of a television signal and a radio signal;

embedding a code in a signal including said mass medium programming that enables said one of a processor and computer to one of receive information and output

information to supplement said mass medium programming in accordance with said downloadable executable code;

communicating a program unit identification code to said storage device and storing said program unit identification code in said storage which stores said mass medium programming;

communicating to said storage device and storing in said storage device information to be processed at a user station to evidence one of an availability, use, and usage of one of video, audio, and text associated with said mass medium programming;

storing in said storage device an instruct signal which is effective at said user station to select said mass medium programming.

Claim 396:

receiving a program to be transmitted at a transmitter station and delivering said program to a transmitter;

receiving and storing said at least one instruct signal at said transmitter station, said at least one instruct signal at said receiver station operate to identify and communicate an electronic message;

transferring said at least one instruct signal to a transmitter; and

transmitting from said transmitter station an information transmission comprising said program and said at least one instruct signal.

Claim 398:

receiving a plurality of discrete signals at said subscriber station and inputting at least a portion of said plurality of discrete signals to said receiver section;

processing said plurality of discrete signals to extract at least one message based on the step of receiving;

storing said plurality of discrete signals in a storage device;

assembling said plurality of discrete signals into a signal comprising said at least one message; and

controlling said subscriber station in accordance with said signal of said discrete signals based on the step of assembling.

Claim 399:

receiving mass medium programming and an instruct signal which is effective at the receiver station to at least one of extract and assemble said at least one control signal and delivering said mass medium programming and said instruct signal to a transmitter;

receiving said at least one control signal and communicating said at least one control signal to a signal embedder;

controlling said signal embedder to embed said at least one control signal message in an information transmission in a pattern of said plurality of discrete signals, said pattern of said plurality of discrete signals having at least one of varying composition, varying timing, and varying location;

communicating said information transmission to said transmitter; and

transmitting said mass medium programming and said information transmission.

D. Response to Allegation of Defective Oath/Declaration

The Examiner asserts that the oath or declaration is defective (Office Action at 180-182.) The Examiner asserts that the instant application is a continuation-in-part of Application No. 113,329, filed August 30, 1993. Thus, the Examiner requires a new oath or declaration that acknowledges the duty to disclose to the Office all information known to Applicants to be material to patentability which occurred between the filing date of the prior application and the filing date of the instant application. Applicants note that the disclosure as filed March 2, 1995 is identical to the disclosure of Application No.

113,329. Applicants properly filed the instant application under the provisions of 37 C.F.R. § 1.60 as in effect on March 2, 1995. Rule 60 provided conditions under which an Applicant may omit signing a new oath or declaration in a continuation application. Applicants respectfully submit that they have fully complied with the provisions of Rule 60 as in effect upon filing of the instant application. Accordingly, Applicants request that the requirement for a new oath or declaration be withdrawn. Notwithstanding the above, should the Examiner maintain the requirement to file a new oath or declaration, Applicants respectfully request that the requirement be held in abeyance until allowable subject matter is indicated as provided under 37 C.F.R. § 1.111.

The Examiner addresses the preliminary amendment filed March 2, 1995, which substituted on page 1 a paragraph under 35 U.S.C. § 120 including references to related applications. This amendment included the statement: "This is a continuation of application serial no. 08/113,329, filed August 30, 1993, herein incorporated by reference in its entirety." The Examiner apparently believes this statement introduced new matter into the specification. As the document attempted to be incorporated by reference is an *identical* specification to the specification of the instant application, the Examiner's basis for this position is not entirely clear to Applicants. However to advance the prosecution of this application Applicants request that any alleged new matter be canceled by the phrase "herein incorporated by reference in its entirety" from page 1.

E. Response to Objection to the Specification

The Office Action states, "The instant specification is objected to because applicants are changing, some +18 years after making the '81 disclosure, the original written description." (Office Action at 8 & 180.) Applicants note for the record that the amendment to the specification that the Office Action refers to is non-existent in the instant application. Applicants believe that the Office Action was referring to another one of Applicants' co-pending amendments to the specification. However, the instant

amendment to the specification at page 37 corresponds to the allegations raised by the Office Action and will be addressed below.

The amendment changes page 37, lines 23-25, of the specification to read:

Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus.

(Additions underlined, deletions bracketed.)

Applicants submit that this amendment corrects an inadvertent error made in preparation of the specification as filed. The amendment includes no new matter. Applicants respectfully request that the Examiner withdraw the objection for the following reasons.

The amended language describes that aspect of the invention in which signal words are received and assembled into signal units. The assembly of signal words into signal units is described consistently throughout the specification in the manner effected by the amendment. As the amendment merely clarifies the disclosure, the amendment introduces no new matter.

The specification as filed, on page 14, lines 23-25, describes, “discrete words . . . that receiver apparatus must assemble in order to receive one complete instruction.” A signal unit is defined as “one complete signal instruction.” (Spec. at 14 ll. 26-27.) Thus, words must be assembled to create a signal unit. The specification consistently discloses that signal words are received and assembled into signal units.

Further, the specification consistently refers to signal words as the basic information block from which other information units are formed. The specification at page 65, lines 34-35, states; “Each message is composed in a whole number of signal words.” “Said information consists of a series of discrete signal words.” (Spec. at 70 ll. 28-29.) “[S]aid given signal word is an EOFS WORD and may be part of an end of file signal.” (Spec. at 71 ll. 5-7.) “[T]o detect those particular uninterrupted series of EOFS

WORDS that constitute end of file signals.” (Spec. at 74 ll. 11-12.) “For example, end of file signals could include the signal word preceding said uninterrupted sequence.” (Spec. at 82 ll. 23-25.) Signal words are formed into commands and other signals throughout the specification.

In the recent Office Action, the sentence on page 15, lines 4-6, of the specification is relied upon as evidence that the amendment is new matter. (Office Action at 8 & 180.) The sentence reads, “Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.” This statement simply describes the circumstance in which a higher level word could contain a lower level unit. Obviously, this statement does not contradict the prior statement that discrete *words must* be assembled to obtain a signal *unit*. As signal words are disclosed as being assembled into signal units, the amendment cannot contain new matter, regardless of the other variations disclosed in the specification. The statement relied upon by the Examiner actually supports the conclusion that the amendment does not introduce new matter.

In *Personalized Media Communications, L.L.C. v. International Trade Commission*, No. 97-1532 (Fed. Cir. Jan. 7, 1999), the U.S. Court of Appeals for the Federal Circuit construed claim 35 in U.S. Patent No. 5,335,277 (the ‘277 patent). The ‘277 patent issued to Applicants on August 2, 1994, from a specification identical to the specification filed in the instant application. In construing the claims of the ‘277 patent, the Court concluded that the prosecution history of the ‘277 patent did not prevent the term “information of a selected television unit” from reading on channel and time information. The Court thus addressed the meaning of the term “selected television program unit.” The Court noted that “a selected program unit” is a particular television program, such as Wall Street Week. The Court did not address the meaning of the terms “signal unit” or “signal word.” No reasoning set forth by the Court conflicts with Applicants’ assertion that the specification discloses that signal units are assembled from signal words.

The amended language describes the assembly of signal words into signal units. The assembly of signal words into signal unit is described at page 14, lines 23-27, of the specification. Therefore, the amendment does not include new matter. Accordingly, Applicants request that the objection to the specification be withdrawn.

F. Response to Rejections under 35 U.S.C. § 112

1. Response to Rejections under §112, first paragraph

a) Response to Written Description Rejections

(1) The Office Action Fails to Establish a Prima Facie Rejection Under the Written Description Requirement of 35 U.S.C. § 112

In the Office Action, the Examiner rejects claims 1-399 under 35 U.S.C. § 112, first paragraph for incorporating subject matter not described in the specification as filed in such a manner as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, were possessed of the claimed invention. (Office Action at 8.) Applicants firmly believe that the instant specification and respective priority documents, all of which are substantially identical, each describe the subject matter of the pending claims. Thus, in Applicants' view, the pending claims fully comply with the requirements of the first paragraph of 35 U.S.C. § 112. Accordingly, Applicants respectfully request the withdrawal of the rejections of claims 1-399 under 35 U.S.C. § 112, first paragraph.

The Examiner notes that the instant specification does not include the exact words and phrases of the disclosure of Applicants' parent Application No. 317,510 (the '81 disclosure.) (Office Action at 3.) The Examiner argues that since Applicants successfully assert that the '81 disclosure supports the pending claims and the '81 disclosure is not duplicated verbatim in the instant specification then it follows that the instant specification does not support the pending claims. The Examiner assumes that the

subject matter in the '81 disclosure that is not duplicated verbatim within the instant specification is omitted from the instant specification. This assumption is incorrect. Applicants maintain that, although the '81 disclosure is not included in identical words in the instant specification, the subject matter of the '81 disclosure is specifically included in the instant specification.

"The function of the description requirement is to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him." *In re Wertheim*, 541 F.2d 257, 262, 191 U.S.P.Q. 90, 96 (C.C.P.A. 1976). Applicants rely on the filing date of November 3, 1981. On this date, Applicants filed Application No. 317,510, now issued as U.S. Patent No. 4,694,490 (the '490 patent). The specification of the '490 patent (the '81 disclosure) clearly demonstrates that Applicants had possession of the subject matter presently claimed.

"[T]he PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims." *Id.* at 263, 191 U.S.P.Q. at 97. The Examiner has failed to meet this burden. The record of the prosecution of the instant application fails to include any reasons why persons skilled in the art would not recognize from the specification that Applicants invented the invention defined by the pending claims. The Examiner merely states, at page 15 of the Office Action, that the "instant '571 disclosure has not been found to describe the alleged '81 support ' . . . in such full, clear, concise, and exact terms . . . ' as is required under the law of 35 U.S.C. 112 1st paragraph." The Examiner also provides a list of claim phrases that are deemed to lack support (Office Action at 8-106). This list includes practically all phrases from nearly all the pending claims and amounts to an unsubstantiated assertion that the pending claims as a whole are unsupported under the written description requirement of 35 U.S.C. § 112, first paragraph. The Examiner has failed to present evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.

The outstanding rejection under the written description requirement is merely a blanket, unsupported statement that the pending claims fail to meet the requirements of 35 U.S.C. § 112, first paragraph. Because the Examiner includes no reasons for the rejection, the only manner for Applicants to respond is to exhaustively demonstrate where each and every limitation in the pending claims is found in the specification without regard to how clearly the specification may show each limitation to those skilled in the art. However in order to advance the prosecution of the instant application, Applicants submit herewith, Appendix A, reciting specification support for each claim limitation to the instant specification at to the parent 1981 priority application.

(2) Applicants' Summary and Description of Integration of the Instant Specification

Each manifestation of Applicants' claimed invention, regardless of how the manifestation may be described in the specification, is a single embodiment of the invention. Thus, the specific support provided for each claim is by definition from within a single embodiment.

Applicants acknowledge that there are numerous embodiments of the presently claimed invention described in the specification. Applicants' specification is a single cohesive document with each successive section and example extending and developing the preceding disclosure. The various disclosures, examples, and subsystems disclosed within the specification are clearly intended to be integrated into general working systems, methods and apparatus. Applicants' specification is very carefully constructed to provide clear and unequivocal contextual relationship between the various inventive concepts, processes and apparatus that Applicants disclose.

At the outset, Applicants focus on the importance of *integrating* functionalities and state:

It is the object of this invention to unlock this great potential in the fullest measure by means of an *integrated system* of programming communication that joins together all these capacities most efficiently.

(Spec. at 3 ll. 30-33)(emphasis added).

In "Background of the Invention" (Spec. at 1-11), Applicants list a multitude of problems and limitations in the prior art for which this integrated system provides valuable solutions. Applicants *also introduce focal opportunity*:

Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)

Unlocking this potential is desirable because these new media will add substantial richness and variety to the communication of ideas, information and entertainment. Understanding complex subjects and making informed decisions will become easier.

(Spec. at 2 ll. 8-24.)

Applicants explicitly acknowledge that to succeed in the fullest measure means solving many technical problems as well as providing for a broad spectrum of subscriber information demands and equipment capacities:

To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.

But it requires much more.

To unlock this potential fully requires *a system with efficient capacity* for satisfying the demands of subscribers who have *little receiver apparatus and simple information demands* as well as subscribers who have *extensive apparatus and complex demands*. It requires capacity for transmitting and organizing vastly more information and programming than any one-channel transmission system can possibly convey at one time. It requires capacity for controlling intermediate transmission stations that receive information and programming from many

sources and for organizing the information and programming and retransmitting the information and programming so as to make the use of the information and programming at ultimate receiver stations as efficient as possible.

(Spec. at 2 l. 25 through p. 3 l. 8)(emphasis added).

To disclose how the integrated system overcomes the identified limitations, solves the problems, and realizes this potential fully, requires *step-by-step teaching* of separate elements – methods as well as apparatus – of Applicants' disclosed system. At each new step, the *contextual relationship* of the new teaching to earlier teachings *is explicitly stated*. Applicants highlight below how this step-by-step teaching carries the relationships of the various separate elements throughout the disclosure.

(a) “One Combined Medium” (pages 19-28)

In a section, (Spec. at 19-28), entitled “One Combined Medium,” (Spec. at i l. 16 and p. 19 l. 5), which focuses on the subscriber station of Fig.1, Applicants begin by teaching “a *video/computer* combined medium,” (Spec. at 19 l. 6)(emphasis added). A local image – Fig. 1A (*See* Spec. at 25 ll. 9-14) – is provided at the subscriber station and combined with a remotely supplied video image – Fig. 1B (*See* Spec. at 25 ll. 30-33) – in order to deliver a combined image of Fig 1C (*See* Spec. at 26 ll. 8-15). (Simultaneously, user specific local images are provided at other subscriber station and combined with the remotely supplied video image – (*see*, specification at page 26 lines 16-19.)

(As an example of Applicants' step-by-step teaching approach, not until a section entitled “Audio Overlays and Other Overlays,” which begins on page 463, are Applicants prepared to focus on Fig. 7D and teach “a radio/computer combined medium,” (Spec. at 464 l. 6), or teach “a broadcast print and computer combined medium,” (Spec. at 466 l. 20), or focus on Fig. 7E and teach “the full combined medium of television and computers,” (Spec. at 468 ll. 10-11).

In the “One Combined Medium” section, Applicants disclose concepts of “a combining operation” and “synchronization”. For example: “subscriber station apparatus

... execute *a combining operation in synchronization....*” (Spec. at 26 ll. 21-22)(emphasis added).

Applicants also teach *order* of operations. For example, one operation. (Spec. at 24 ll. 5-27), may provide the local image—Fig. 1A—at the subscriber station; a different operation, (Spec. at 26 ll. 4-11), may deliver the combined image—Fig. 1C. (“One Combined Medium” also discloses that a third operation, (Spec. at 27 ll. 3-7), may terminate delivery of the combined image.)

More broadly, in “One Combined Medium” Applicants teach *important concepts regarding instructions* and, *most importantly, timing*. For example:

Decoder, 203, is **preprogrammed** to detect digital information Microcomputer, 205, is **preprogrammed** ... to respond ... to *instruction signals* embedded in the ... programming transmission.

(Spec. at 21 ll. 14-24)(emphasis added).

In said series in full--and in any one or more subsequent series of instructions--*particular instructions are separated*, as may be required, *by time periods when no instruction* that controls the microcomputer, 205, of any station *is transmitted* which periods allow sufficient time for the microcomputer, 205, of each and every subscriber station *to complete functions* controlled by previously transmitted instructions and commence waiting for a subsequent instruction, in a waiting fashion well known in the art, before receiving a *subsequent instruction*.

(Spec. at 22 ll. 9-18)(emphasis added).

... *an instruction ... causes* subscriber station apparatus to execute a combining operation in *synchronization*

(Spec. at 26 ll. 21-22)(emphasis added).

In addition, personalized programming is displayed *only when* it is of specific relevance to the conventional television programming of said combined medium. In the example, each subscriber views a graphic presentation of his own portfolio performance information *as soon as* it becomes specifically relevant to graphic information of the performance of the market as a whole. Prior to its time of specific relevance, no personalized information is displayed (despite the fact that said graphic information of the performance of the market as a whole is displayed). And said personalized information is displayed *only for so long as* it remains specifically relevant. *As soon as* its specific relevance terminates, its display terminates.

(Spec. at 27 ll. 21-33)(emphasis added).

In the “One Combined Medium” section, Applicants demarcate a critical type of instruction with a definition.

Hereinafter, an instruction ... that causes subscriber station apparatus to execute a combining operation ... is called a “combining synch command.”

(Spec. at 26 ll. 20-23)(emphasis added).

Furthermore, in “One Combined Medium,” Applicants teach a temporal relationship of combining synch commands that have specific functionalities. A *first combining synch command*, (See Spec. at 24 ll. 5-27 and p. 26 ll. 23-28), causes the local image—Fig. 1A—to be provided at the subscriber station. A *second combining synch command*, (See Spec. at 26 ll. 1-8 and 20-23), causes display of the combined image—Fig 1C. (Furthermore, a *third combining synch command*, (See Spec. at 27 ll. 3-7), terminates display of the combined image.) In their step-by-step teachings, Applicants *provide clear contextual pertinence of subsequent teachings by making explicit reference to* the “One Combined Medium” disclosure, and especially by *establishing the temporal relationships of subsequent teachings to the Fig.1C combining and the functionalities provided by these combining synch commands.*

(b) **“The Signal Processor” through “The Normal Transmission Location” (pages 28-86) and “The Preferred Configuration of Controller, 39, and SPAM-Controller, 205C.” (pages 156-162)**

In the specification at pages 28-86 and pages 156-162, Applicants teach apparatus and signaling techniques that are *used throughout the remainder of Applicants’ disclosure*. Applicants teach Signal Processor, (Spec. at 28-34 and Fig.1); Signal Decoder, (Spec. at 34-38 and Figs.2A-2C); and Signal Processor System, (Fig.2D), apparatus. *Applicants also teach in detail the controller* (Spec. at 156-162 and Fig.3A) *apparatus of Signal Decoders* (e.g., controller, 39, in Fig. 2A). Applicants teach signaling techniques in sections entitled “The Composition of Signal Information ...

Commands, Information Segments, and Padding Bits,” (Spec. at 43-49), The Organization of Message Streams ... Messages, Cadence Information, and End of File Signals,” (Spec. at 59-69), “Detecting End of File Signals,” (Spec. at 69-84), and “The Normal Transmission Location,” (Spec. at 84-86).

**(c) “Operating Signal Processor Systems ... Introduction”
through “Operating Signal Processor Systems ... Signal
Record Transfer” (pages 86-278)**

At specification pages 86-278, Applicants teach methods of operating the signal processing apparatus of pages 28-86 and 156-162 explicitly within the context of the “One Combined Medium” disclosure. For example:

Five examples illustrate methods of operating signal processing system apparatus. Each focuses on subscriber stations where the signal processor system of Fig. 2D and *the combined medium apparatus of Fig. 1* share apparatus and operate in common. Fig. 3 shows one such subscriber station.

(Spec. at 86 l. 32 through p. 87 l. 2)(emphasis added).

All five examples describe signal processing variations that relate to *the Fig. 1C combining of “One Combined Medium.”*

(Spec. 87 ll. 30-32)(emphasis added).

Each example focuses on the processing of the three signal messages of the *Fig. 1C combining*. The information of said messages include three combining synch commands and one program instruction set. The first message is of the information associated with the *first combining synch command*. Said first command has a “01” header, an execution segment, and a meter-monitor segment of six fields. Said command is followed by an information segment that contains said program instruction set, and said information segment is followed by an end of file signal. Said first command addresses URS microcomputers, 205, and causes said computers, 205, to load and run the program instruction set transmitted in the information segment.

(Spec. at 89 ll. 3-16)(emphasis added).

The second message is of the information associated with the *second combining synch command*.

(Spec. at 90 ll. 4-5)(emphasis added).

The third message is of the information associated with the *third combining synch command*.

(Spec. at 90 ll. 28-29)(emphasis added).

Repeatedly throughout each of the five examples, reference is made to pertinent “One Combined Medium” disclosures. For example, in Example #1, (Spec. at 93-143), Applicants state:

OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #1.

The first example elaborates on the Fig. 1C combining described above in “One Combined Medium” and focuses on the operation of decoder, 203, SPAM-controller, 205C, and microcomputer, 205, on the execution of controlled functions, and on the the use of cadence information to organize signal processing. The example begins as divider, 4, starts to transfer to decoder, 203, in its outputted composite video transmission, the embedded binary information of the first message.

(Spec. at 93 ll. 20-29.)

As described in “One Combined Medium” above, loading and running said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM.

(Spec. at 107 ll. 20-24.)

In the foregoing fashion and as described in “One Combined Medium” above, said transferred information of the second combining synch command causes microcomputer, 205, to combine the programming of Fig. 1A and of Fig. 1B and transmit said combined programming to monitor, 202M, where Fig. 1C is displayed.

(Spec. at 125 l. 31 through p. 126 l. 1.)

Fig. 3 (which is the combination of the apparatus of Figs. 1 and 2D (*See Spec. at 86 l. 32 et seq.*)) and Fig. 3A (the controller in the decoders 30 and 203 in Fig. 3, (*See Spec. at 156 l. 18 et seq.*)) depict the receiver station at which all five examples occur. Example #1 discloses in detail transfer of SPAM messages to addressed apparatus at the receiver station as well as the execution of controlled functions in response to the messages. Example #2 discloses selective decryption of content of the SPAM message

stream at decryptor 10 of signal processor 200. Example #3 discloses the creation of signal records at signal processor 200 based on monitoring information contained in the message stream that delivers the Fig. 1C image. Example #4 discloses functioning of the Fig. 3A controller 39 in decoder 203, including selective decryption at decryptor 39K and additional processing of the message stream content to create signal records. Example #5 discloses the functioning of signal processor 200 components (e.g., 6, 1, 2, 3, 30 and 40) to gather data on the availability of programming (see, for example, page 269 line 6).

Pages of the specification 271-278, state: “In examples #3, #4, and #5, the transmission of SPAM signal information causes signal processor, 200, to transfer signal record information by telephone to remote station computers,” (Spec. at 271 l. 33 *et seq.*) and teach this process in detail.

(d) “Regulating the Reception and Use of Programming ... including Example #6” and “... Example #7” (pages 278-312) as well as “... More on Example #7 ... Combining ... Automatically to the Computer System ...” (pages 427-447)

At pages 278-312 of the specification, Applicants teach methods of governing the reception and use of programming and relate to, for example, “digital ... television transmissions,” (See Spec. at 279 l. 14). Example #6 discloses a variant of the type of decryption techniques disclosed in examples #2 and #4 to regulate the use of control signal, in particular. Focusing on the receiver station of Fig. 4, (See Spec. at 286 l. 6 through p. 288 l. 20), example #7 discloses a multistage process of selectively decrypting digital components (video and audio) of a “television signal,” (See Spec. at 288 ll. 32-33). The multistage process includes selective transfer, *e.g.*, by tuning or switching, (Spec. at 295 ll. 6-30). At pages 427-447, additional regulating concepts are taught which are variants to the disclosure of pages 287-312, and which rely on disclosures (e.g., intermediate transmitter station automation, (Spec. at 324-390)) which occur in the specification between pages 312 and 427.

Just like every one of examples #1-#5, examples #6 and #7 (Spec. at 287-312 and 427-447) are disclosed within the context of the “Wall Street Week” program. With respect to example #6, see, for example, page 281 lines 7-9. With respect to example #7, see, for example, page 289 lines 12-27 and page 429 lines 26-33. The examples also disclosed functionally and temporally with respect to earlier disclosures such as in “One Combined Medium” at pages 19-28 (e.g., Spec. at 311 ll. 10-16 and p. 447 ll. 8-14).

(e) “Monitoring Receiver Station Reception and Operation” (pages 312-324)

At pages 312-324 of the specification, Applicants teach methods of monitoring the reception and operation of a receiver station using Fig. 5. Fig. 5 shows an extended system of monitoring decoder, controlled by signal processor 200, each monitoring an associated device and communicating monitor information to signal processor 200. This disclosure is also set within the context of the “Wall Street Week” program (See Spec. at 322 ll. 26-27), references Fig. 1B (Spec. at 322 l. 35), and cites previously defined portions of example #3, which concern monitoring (see Spec. at 322 ll. 30-35, p. 174 ll. 21-23, and p. 190 ll. 14-16).

(f) “Automating Intermediate Transmission Stations” (pages 324-390) including “Example #8” (pages 340-354)

At pages 324-390 of the specification, Applicants teach automation of intermediate stations. The teachings relate to forms of programming that include, but are not limited to, television, radio, and data and that apply to all manner of broadcast and cablecast operations (see Spec. at 324 ll. 11-17, p. 339 l. 9 through p. 340 l. 10, and p. 389 l. 14 through p. 390 l. 11). Figs. 6A-B illustrate Applicants’ teachings in the setting of a cable television system. Generally speaking, apparatus of Figs. 6A-B are described at page 324 line 18 through page 328 line 17 and page 337 lines 1-24, and the basic methods of operation of the station (e.g., operating according to a complete programming

schedule) are disclosed at page 325 line 17 through page 326 line 18 and page 328 line 8 through page 331 line 16. Organizing units of prerecorded programming (e.g., to play according to schedule) is disclosed at page 331 line 17 through page 334 line 6. Playing according to schedule is disclosed at page 334 line 7 through page 336 line 35.

Monitoring station operations is disclosed, *inter alia*, (e.g., to provide auditable proof-of-performance) at page 337 line 25 through page 339 line 8. In their teachings of organizing, playing and monitoring, Applicants introduce exemplary programming, including **program unit Q** which is a specific focus of later disclosures in Applicants' specification. Applicants teach the subject matter of pages 324-390 following pages 86-324 to make clear that the earlier teachings apply at intermediate transmission stations as well as end user stations, (e.g., Spec. at 339 l. 29 through p. 340 l. 10 and p. 389 l. 31 through p. 390 l. 11).

In example #8, Applicants teach a distribution station, such as a satellite uplink, which transmits control signals and units of programming, such as television spot commercials, to a plurality of automated intermediate transmission stations as taught at pages 324-340 (Spec. at 340 l. 13 through p. 345 l. 28). The intermediate transmission stations receive the control signals, (e.g., Spec. at 342 l. 18 through p. 343 l. 17 and p. 344 ll. 28-32), and the programming, and store and retransmit selected exemplary television spot commercials – **most focally program unit Q**, (e.g., Spec. at 343 ll. 5-17, p. 351 l. 27 through p. 352 l. 30, and p. 353 ll. 6-28), with each intermediate station operating independently and retransmitting its selected exemplary commercial(s) at different times and in different channels (Spec. at 343 l. 5 through p. 344 l. 22 and p. 345 l. 29 through p. 354 l. 3). The intermediate stations automatically retain and communicate proof-of-performance records to one or more remote auditing stations, (*see* Spec. at 341 ll. 11-15 and p. 352 l. 18 through p. 354 l. 3).

(g) **Examples #9 and #10 (pages 354-390 & 469-516):
“Automating Intermediate ... Station Combined
Medium Operations” (pages 354-374 of Example #9)
and “Network Control of Intermediate Generating and
Embedding” (pages 374-390 of Example #10)**

In examples #9 and #10, at pages 354-374 of the specification for example #9 and pages 374-390 for example #10, Applicants teach automation of an intermediate station in creation and transmission of combined medium programming (“of the same sort as ‘Wall Street Week’” at page 355 lines 1-2). At pages 469-516, Applicants teach the corresponding operations of a plurality of end user stations to which the intermediate station transmits the programming so created. Both examples focus on **Program unit Q** (see Spec. at 354 l. 35 through p. 355 l. 14, p. 374 l. 29 through p. 375 l. 12, p. 469 ll. 1-2, and p. 478 ll. 23-26). In each example, Applicants teach a sequence of messages and carefully **name each message in the sequence with a name that ties together the transmitter functions of pages 354-390 and the corresponding end user station functions of pages 469-516 unambiguously.** (Appendix D, a Glossary of Defined Terms, is included herewith identifying certain terms and defined by their use in the instant specification.) For example, the “program-instruction-set message (#9)” is defined at page 371 lines 17-19 and transmitted at page 372 lines 4-6; the “program-instruction-set message (#10)” is defined at page 385 lines 14-16 and transmitted at page 386 lines 12-14; the “program-instruction-set message (#10)” is received at the end user station(s) at page 484 lines 5-14; and at page 514 lines 8-13, 17 and 23-24 Applicants teach that the “program-instruction-set message (#9)” “[causes] the same functioning” at the end user station(s) as the “program-instruction-set message (#10)”. Some of the other messages in the sequence are named at page 372 lines 20-35, page 387 lines 19-31, page 490 lines 24-34, page 492 lines 1-11, page 495 lines 1-10, etc., and page 514 lines 8-31.

At pages 354-374 in example #9, Applicants teach local **origination**, (Spec. at 374 l. 6 and p. 368 ll. 3-4), of combined medium programming at an automated transmitter station (which is also an intermediate transmission station). **Program unit Q**,

which is delivered to and handled at the intermediate station according to the teachings of pages 324-354, (Spec. at 355 ll. 15-17), is disclosed as television-based combined medium programming, (Spec. at 354 l. 35 through p. 355 l. 14), that contains embedded signals, (e.g., Spec. at 356 l. 9 through p. 358 l. 21, p. 367 ll. 30-33, p. 369 ll. 4-6, and p. 372 ll. 22-35). As one example of the creation of programming, at pages 359 line 14 through page 365 line 21, Applicants teach automation of the intermediate station to create a set of instructions (called "PROGRAM.EXE" at page 365 line 8 and defined as the "program-instruction-set of Q" at page 365 lines 18-21) and to transmit the instructions, (Spec. at 371 l. 11 through p. 372 l. 6), in a "program-instruction-set message," (Spec. at 371 ll. 17-19 and p. 372 ll. 4-6).

At pages 374-390 in example #10, Applicants teach **network origination** (Spec. at 374 ll. 20-31) of combined medium programming and focus especially on the creation of programming *in the network* at automated intermediate stations as well as at an origination station. **Program unit Q** in example #10 is the same program unit Q as in example #10 (Spec. at 375 ll. 7-8). In example #10 Applicants disclose the same creation of programming as in example #9. For example, page 377 line 4 through page 382 line 14 corresponds to page 358 line 26 through page 366 line 18; "PROGRAM.EXE" appears at page 379 line 24, page 380 line 18, and page 382 line 3; definitions of the "program-instruction-set of Q.1" and "program-instruction-set of Q.2" occur at page 378 lines 23-28 and at page 380 lines 20-24 respectively; and generated instructions are transmitted at page 385 line 9 through page 386 line 14 in a "program-instruction-set message." But in contrast to example #9 which focuses on origination at just one transmitter station, in example #10 Applicants teach a plurality of automated intermediate station operating in parallel under control of a network origination station to generate and transmit control instructions messages (*see* Spec. at 59 ll. 29-33) to different end user stations. Furthermore, Applicants teach that the control instructions differ from each

other (e.g., the PROGRAM.EXE files in the messages (Spec. at 484 ll. 9-10 and 17-18) differ (Spec. at 379 ll. 5-31 and p. 380 ll. 7-20)).

The end user station functionalities of examples #9 and #10 are disclosed at pages 469-516. Applicants teach a series of combined medium outputs (e.g., Spec. at 491 ll. 10-16 and p. 506 ll. 17-21) in response to the transmitted control instructions or “messages” (Spec. at 484 ll. 5-18, p. 485 ll. 14-18, p. 490 l. 24 through p. 491 l. 16, and p. 505 l. 32 through p. 506 l. 21). Furthermore, the information outputted in the combined medium outputs differs from end user station end user station (Spec. at 491 ll. 10-29 and p. 506 ll. 17-31). Applicants also teach in examples #9 and #10 *other functionalities, such a viewer interactivity and interactivity with stations remote from the end user stations*, that are discussed more fully below.

**(h) Automating Ultimate Receiver Stations (pages 390-427)
... Regulating Station Environment (pages 396-406) ...
Coordinating a Stereo Simulcast (pages 406-419) ...
Receiving Selected Programming (419-427)**

Focusing on Fig. 7, Applicants teach, at pages 390-396 of the specification, apparatus and functionalities of an end user station including computing, signal processing (e.g. Figs. 2-2D), switching, decrypting, etc., in addition to receivers, storage devices, and various speaker and display devices. On page 396 is additional disclosure associated with the preferred controller, 39, taught at pages 156-162. At pages 396-406, Applicants disclosure concepts associated with broadcast/cablecast control of end receiver station heating/cooling and mechanical systems as well as interactivity associated with, for example, utilities meter reading. At pages 406-419, Applicants teach coordinating separate systems under broadcast/cablecast control – in this case, controlling devices associated with television and radio to present a stereo simulcast – as well as monitoring the devices in order to provide records of the performance of the stereo simulcast and of other presentations at the end user station to a remote data collection

station. At pages 419-427, Applicants teach storing identifiers (e.g., of the stocks in a stock portfolio) and controlling the receiver station (e.g., tuning cable converter 222 at page 423 lines 11-13) to receive identified news at to process the news (e.g., Spec. at 425 ll. 30-34) according to pre-entered instructions of a user.

(i) **More Disclosure in the Context of “Wall Street Week”
(pages 427-469)**

Having taught basic concepts of apparatus and automation of ultimate receiver stations, Applicants teach more advanced concepts within the context of “Wall Street Week” and its many attendant earlier teachings. Applicants’ objective, in so doing, is to **teach how the various teachings, attendant to “Wall Street Week”, relate to each other.**

(j) **More on Example #7 (pages 427-447)**

At pages 427-447 of the specification, Applicants elaborate on the earlier “Regulating Systems” (Spec. at 288 l. 22) teachings of example #7 (Spec at 288-312), which are summarized in section (d) above. Applicants teach the network described in “One Combined Medium” (Spec. at 20 l. 28 through p. 21 l. 4) as a **self structuring, parallel processing computing system**. This teaching follows Applicants teaching of “Automating Intermediate Transmission Stations” (Spec. at 324 l. 7 and pp. 324-390) in order to **elaborate on intermediate transmission station** (e.g., see references to Fig. 6 at page 429 line 29 and page 325 lines 15-16) **automation** within the context of example #7 (e.g., Spec. at 429 l. 26 through p. 435 l. 15) and the teachings attendant to “Wall Street Week” generally. Applicants teach the selective processing of incoming programming in accordance pre-stored “program-unit-of-interest information” (e.g., Spec. at 428 ll. 21-26) that enables different viewer stations to handle differently (e.g., store/display, automatically authorize purchase of) the “Wall Street Week” programming. Applicants teach storage of programming (Spec. at 445 ll. 27-32) that includes (e.g., Fig. 1C) the

locally provided information (*e.g.*, Fig. 1A) combined with the remotely supplied information (*e.g.*, Fig. 1B).

(k) Controlling Combined Medium Operations (pages 447-457)

At pages 447-457 of the specification, Applicants teach the functioning of “One Combined Medium” (Spec. at 19-28) within the context (*e.g.*, Spec. at 451 ll. 1-3) of functions that (i) precede (Spec. at 447 l. 26 through p. 451 l. 11) the beginning of the “One Combined Medium” programming (*i.e.*, “Wall Street Week”) and (ii) follow (Spec. at 451 l. 4 through p. 457 l. 10) the display of Fig. 1C. Applicants teach **providing and updating viewer data (*e.g.*, stock portfolio data) before the start of, for example, “Wall Street Week” and controlling viewer stations to generate and combine into the “One Combined Medium” programming a series of local images with each image combined within its specific time interval of relevance.** Applicants also teach **error correction techniques for controlling viewer station computers that function incorrectly or inefficiently.**

(l) Transmitting Program Instructions Sets (pages 457-463)

Having taught generation of more than one image, inefficiency, and error correction, Applicants teach methods, at pages 457-463, for timely provision of software for controlling the generating and combining of local images (*e.g.*, Fig. 1A) into the “One Combined Medium” programming. These include varying size of the bandwidth in which the software is located, as well as the location(s) and the timing pattern(s) in which the software is transmitted.

(m) Audio Overlays and Other Overlays (pages 463-468)

Focusing on Fig. 7D, Applicants teach a radio combined medium at pages 464-466 of the specification, including local selection at a radio receiver station of user

specific audio and insertion of the selected audio into radio programming supplied from a remote radio transmitter. Applicants teach a broadcast print combined medium at pages 466-468, including local selection at a broadcast print receiver station of user specific text and insertion of the selected text into broadcast print programming supplied from a remote transmitter. Focusing on Fig. 7E, Applicants teach at page 468 a television combined medium that includes customized audio as well as customized video.

**(n) Examples #9 and #10 Continued – Viewer/Listener
Station Functionalities (pages 469-516)**

To teach the viewer/listener station processing of **program unit Q** in examples #9 and #10 (*see* section (g) above), Applicants focus on the “ultimate receiver station” (defined at page 40 line 35 through page 41 line 1) of Fig. 7 (*e.g.*, Spec. at 390 ll. 30-31 and p. 470 l. 9). Having taught the concepts summarized in section (m) above, Applicants can teach receiver stations interconnecting “apparatus ... in the fashion of Fig. 7E” (Spec. at 480 ll. 16-17). In this environment, Applicants teach local interactions (*e.g.*, by humans at page 471 lines 6-18 and page 508 line 19 through page 509 line, and by equipment at, for example, page 484 lines 7-18 and page 509 line 35 through page 511 line 22) result in interaction between local station and remote station equipment (*see* Spec. at 509 l. 35 through p. 510 l. 4). Drawing on virtually every previous teaching, Applicants disclose at pages 469-516 generation of a series of outputs (*e.g.*, Spec. at 485 ll. 14-18) that include video (*e.g.*, Spec. at 491 ll. 10-29), audio (Spec. at 491 l. 30 through p. 493 l. 22), and print (Spec. at 496 l. 3 through p. 499 l. 3). Applicants also disclose error correction, as summarized in the section above, at page 514 line 32 through page 516 line 13. Furthermore, Applicants disclose at page 514 lines 8-31 that the viewer/listener stations perform substantively identically in examples #9 and #10.

**(o) Preprogramming Receiver Station Operating Systems
(pages 516-532) and The Preferred SPAM Header
(pages 532-533)**

At pages 516-532 of the specification, Applicants teach one master control station (*e.g.*, Spec. at 518 ll. 17-26) transmitting operating system instructions to and programming transmitter and receiver station widely dispersed over a geographic area with the operating systems. Each station to be programmed selects those operating system instructions that apply to its particular type and version of reprogrammable device(s) (*e.g.*, Spec. at 522-524), routes the instructions to memory of the reprogrammable device(s), and commences operating under control of the operating system instructions. At pages 532-533, Applicants further focus on the desirability of flexibility for system expansion and teach that the preferred SPAM header is one byte in length.

(p) The General Case ... Summary Example #11 (pages 533-557)

While Applicants could summarize their disclosure by simply stating that each method and feature of their disclosed “unified system” (Spec. at 533 l. 24) could be combined with every other method and feature (on its face an apparent tautology), they choose, instead, to provide one final example which explicitly relies on the entirety of foregoing disclosure. In example #11, programming is distributed in a time cycling fashion (*e.g.*, Spec. at 536 l. 11 *et seq.* and p. 556 ll. 12-14) from a European master control station via satellite (Spec. at 536 ll. 4-6) to national intermediate transmission stations (Spec. at 534 ll. 26-31) which transmit to local intermediate transmission station (Spec. at 535 ll. 18-22) which, in turn, transmit to ultimate receiver stations (Spec. at 534 ll. 1-4) where programming is displayed (*e.g.*, Spec. at 552 ll. 20-30) and information is communicated responsively (*e.g.*, Spec. at 555 ll. 14-29) back to the European master control station and the national and local intermediate stations (Spec. at 555 l. 26 through p. 556 l. 9).

The European master control station controls the national intermediate stations (e.g., Spec. at 541 l. 29 through p. 542 l. 2 and p. 543 ll. 20-29) to control the local intermediate stations (e.g., Spec. at 544 l. 23 through p. 545 l. 11) to control the ultimate receiver stations (e.g., Spec. at 547 ll. 19-26 and p. 548 ll. 1-6). User specific information is generated at each ultimate receiver station (e.g., Spec. at 548 ll. 18-22 and p. 550 ll. 30-31), stored at each ultimate receiver station (e.g., Spec. at 551 ll. 11-14), explained in combined medium output (Spec. at 552 ll. 17-30), and communicated to the European master control station and the national and local intermediate stations (Spec. at 555 l. 26 through p. 556 l. 9). At points in the disclosed example #11 cycle where functions are described in general, reference is made to earlier sections of the specification that teach the detail of how the function is performed. For example, at page 537 lines 6-17, the European master control station is explicitly disclosed as preprogramming the national and local intermediate stations and the ultimate receiver stations in the fashion summarized in the above section.

(q) Conclusion

As demonstrated above, within the specification, many embodiments of the claimed invention are disclosed. Each manifestation of an apparatus or method that includes the subject matter defined by the instant claims is a *single* embodiment of Applicants' invention. Such a single embodiment of Applicants' invention may have elements or steps that are described in detail in various separate sections of the instant specification. Every embodiment of the instant invention that is described by the specification as a whole is a *single* embodiment of the instant invention that provides support under the written description requirement.

It appears, however, that what the Examiner intends to request is that Applicants provide support for every limitation of an individual claim from within a single one of the detailed enumerated examples listed in the specification. In other words, the Examiner

requests that the support provided for all the limitations of an individual claim be contiguous or proximate within *only a portion* of the specification, rather than the specification as a whole. The written description requirement of 35 U.S.C. § 112 does not mandate such contiguous or proximate descriptions of each element or step of every individual claim.

“To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that the ‘inventor invented the claimed invention.’” *Regents of University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 43 U.S.P.Q.2d 1398, 1404 (Fed. Cir. 1997)(quoting *Lockwood v. American Airlines*, 107 F.3d 1565, 41 U.S.P.Q.2d 1398, 1405 (Fed. Cir. 1997)). Applicants submit that one of ordinary skill in the art would determine that the inventors possessed the claimed invention by recognizing that the embodiments indicated in Appendix A are described in the specification. Since, for the reasons discussed above, one of ordinary skill in the art would recognize that the specification is a single cohesive document containing many descriptions of methods and apparatus included in general integrated systems, there is no reason that the entire support for each individual claim must come from within a single detailed enumerated example described in the specification. However in order to advance the prosecution of the instant application, Applicants have selected embodiments for inclusion in Appendix A that include elements and steps described primarily in a single enumerated example of the specification.

(r) The Subject Matter in the ‘81 Disclosure is Specifically Included In the Instant Specification

Applicants recognize that they must convey that they were in possession of the invention as of the effective filing date of November 3, 1981. Applicants also recognize that the claim of priority under 35 U.S.C. § 120 requires that the previously filed application disclose the invention in the manner provided by the first paragraph of 35

U.S.C. § 112. Accordingly, throughout the prosecution of the pending claims, Applicants have provided support based on the application filed November 3, 1981. Applicants also submit herewith, in Appendix A, support for each claim limitation from the application filed November 3, 1981. Applicants respectfully submit that the detailed support provided in Appendix A demonstrates full compliance with the written description requirement of 35 U.S.C. § 112, first paragraph, and the related requirement of 35 U.S.C. § 120. Additionally, Applicants submit Appendix C herewith, to provide a correlation between the 1981 priority specification (as referenced the column and line numbers of Applicants' U.S. Pat. No. 4,694,490) and the instant specification, and Appendix D containing a Glossary of Defined Terms with respect to the instant specification.

In the Office Action at page 5, the Examiner seeks an explanation for how the '81 disclosure can be considered the specification support. The subject matter in the '81 disclosure is clearly included in the instant specification as demonstrated by Appendix C. Applicants respectfully assert that one skilled in the art, upon recognizing a description of the invention in the '81 disclosure, would readily recognize a description of the invention in the instant specification. The Examiner merely states at page 3 of the Office Action that the previously provided support does not cite the sentences, paragraphs, or passages of the instant specification. Applicants submit that the support provided in Appendix A demonstrates that the instant specification describes the subject matter that is originally disclosed in the '81 application and is presently claimed.

Applicants clarify that the instant specification does not included a verbatim duplication of the '81 disclosure. However, Applicants maintain that the subject matter in the '81 disclosure is specifically included in the instant specification. Neither 35 U.S.C. § 112 nor 35 U.S.C. § 120 requires that the parent application be incorporated into the pending application either by reference or by verbatim repetition. "In order to determine whether a prior application meets the 'written description' requirement with respect to later-filed claims, the prior application need not describe the claimed subject

matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented the what is now claimed.” *Eiselstein v. Frank*, 52 F.3d 1035, 34 U.S.P.Q.2d 1467, 1470 (Fed. Cir. 1995)(citation omitted)(quoting *Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1561, 19 U.S.P.Q.2d 1111, 1116 (Fed. Cir. 1991)). Applicants respectfully submit that the support cited in Appendix A demonstrates that the ‘81 disclosure indicates to persons skilled in the art that as of November 3, 1981, Applicants had invented what is now claimed.

(3) 35 U.S.C. § 112 Includes No Requirement That Identical Embodiments of the Invention be Described in Both a Parent Application and a Subsequent Application Claiming Priority Therefrom

As discussed above, there are many embodiments of the claimed invention disclosed in the specification in such full, clear, concise, and exact terms that one skilled in the art would clearly conclude that Applicants invented the claimed invention as of the effective filing date of the application. There is no conflict or discrepancy for Applicants to refer to one embodiment at one point during the prosecution of the instant application and to refer to another embodiment at a different point. Applicants may independently rely on various embodiments of the claimed invention to demonstrate support under the written description requirement. Likewise, there is no requirement in either 35 U.S.C. § 112 or 35 U.S.C. § 120 that identical embodiments of the invention be described in both a parent application and subsequent application claiming priority therefrom. As noted above, “the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented the what is now claimed.” *Eiselstein v. Frank*, 52 F.3d 1035, 34 U.S.P.Q.2d 1467, 1470 (Fed. Cir. 1995)(citation omitted)(quoting *Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1561, 19 U.S.P.Q.2d 1111, 1116 (Fed. Cir. 1991)). “[I]psis verbis disclosure is not necessary to satisfy the written

description requirement of section 112. Instead, the disclosure need only reasonably convey to persons skilled in the art that the inventor had possession of the subject matter in question.” *Fujikawa v. Wattonasin*, 39 U.S.P.Q.2d 1895, 1904 (Fed. Cir. 1996)(quoting *In re Edwards*, 568 F.2d 1349, 1351-52, 196 U.S.P.Q 465, 467 (C.C.P.A. 1978)). Applicants may rely on different embodiments at different times to show that the disclosure conveys to those skilled in the art that Applicants had possession of the claimed subject matter. Applicants respectfully submit that such use of multiple embodiments is permissible to demonstrate compliance with the written description requirement of 35 U.S.C. § 112. However, where clarity permits, Applicants have selected similar embodiments from both the ‘81 disclosure and the instant specification for inclusion in Appendix A to demonstrate compliance with the written description requirement.

(4) Conclusion

The Examiner has failed to establish a *prima facie* rejection under the written description requirement of 35 U.S.C. § 112, first paragraph, because no reasons are given as to why one skilled in the art would not consider the description sufficient. The Examiner also asserts that there is a lack of continuity between the disclosure in the application filed November 3, 1981 and the instant specification. Applicants maintain that, although the ‘81 disclosure is not included in identical words in the instant specification, the subject matter of the ‘81 disclosure is included in the instant specification. Furthermore to demonstrate support for the instant claims, submitted herewith, in Appendix A, are tables demonstrating support for each claim from both the ‘81 disclosure and the instant specification. In view of the above arguments and Appendices A, C & D, Applicants respectfully request that the rejection under the written description requirement of 35 U.S.C. § 112, first paragraph be withdrawn.

b) The Specification Enables One Skilled in the Art to Make and Use the Invention

The Examiner rejects claims 1-399 under the enablement requirement of 35 U.S.C. § 112, first paragraph. (Office Action at 5.) The Examiner concludes that the handling/transmission of “digital television signals” is not enabled by the specification. (Office Action at 107.) The Examiner also concludes that “data” could not be processed in the same manner as television and radio programming units. (Office Action at 113.) However, these conclusions are not directed specifically to the invention claimed by the presently pending claims.

The test for enablement is whether one reasonably skilled in the art could make or use the invention from the disclosure in the application coupled with information known in the art without undue experimentation. *United States v. Teletronics, Inc.*, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988). The invention is defined by the claims presented in the instant application. The Examiner concludes that the terms “digital” and “data” are not enabled. The Examiner fails to consider how these terms define Applicants’ invention in the instant claims. The Examiner has failed to include any analysis of whether any particular claim is supported by the disclosure. The PTO bears the initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by each claim is not adequately enabled by the description of the invention provided in the specification of the application. *In re Wright*, 999 F.2d 1557, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993) The Examiner has failed to consider the scope of protection provided by the claims in his analysis under the enablement requirement. Therefore, the Examiner has failed to establish a *prima facie* rejection under the enablement requirement of 35 U.S.C. § 112, first paragraph.

The Examiner suggests Applicants enumerate which claim trees are directed toward an ‘81 embodiment and which are directed toward an ‘87 embodiment. In Part a)(2)(r) above, Applicants have fully addressed this ground of rejection in the context of

the written description requirement. Applicants maintain that each pending claim defines an invention that has embodiments described in both the application originally filed November 3, 1981, and the instant specification. The Examiner has failed to determine that one reasonably skilled in the art could not make or use the invention by the conclusion that the claims "seem to mix and match '81 and '87 disclosed embodiments." Therefore, the Examiner has failed to establish a proper rejection under the enablement requirement of 35 U.S.C. § 112, first paragraph.

(1) "Digital" is Enabled by the Specification

Claims 1-399 stand rejected under 35 U.S.C. § 112, first paragraph, because the Examiner alleges these claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. (Office Action at 107.) The Examiner asserts the specification fails to disclose the manner in which digital television signals are formatted and processed. The Examiner acknowledges that the transmission of digital television signals was known in the art. The rejection is based on the assertion that the transmission of digital television signals was not interchangeable with the transmission of analog television signals and the Examiner's conclusion that Applicants' disclosure assumes that they are interchangeable. This reasoning is an insufficient basis for the rejection of claims 1-399 for at least two reasons. First, the Examiner's discussion of the transmission and formatting of digital television signals is not directed to the scope of claims 1-399. Second, the means needed to format and transmit digital television signals in a manner compatible with all the methods and apparatus disclosed in the specification was known by those skilled in the art.

Claims 1-399 are fully enabled by the specification. The following are claims in the instant application that specify "digital", i.e.:

Claim 46, "digital audio,"

Claim 48, "digital video,"

Claim 50, "digital data,"

Claim 172, "digital control signal,"

Claim 176, "digital control signal,"

Claim 179, "digital data,"

Claim 329, "digital identification signal;"

Claim 348, "digital data,"

Claim 349, "digital television signal,"

Claim 352, "digital television signal,"

Claim 383, "digital detector," and

Claim 399, "digital detector."

See Appendix A for specification support for the above claims.

Notwithstanding the above arguments, Applicants recognize that the invention defined by the aforementioned claims are compatible with the use of digital television signals. The handling and transmission of digital television signals in a manner compatible with the methods described in the specification were well known to those skilled in the art as of the filing date of the instant application. The Examiner requests Applicants to submit references which show that the means needed to format and transmit "digital television signals" were known to those skilled in the art. Applicants submit that U.S. Patent No. 3,906,480 issued on September 16, 1975 to Schwartz et al. discloses the means needed to format and transmit "digital television signals" in a manner compatible with the methods described in the specification. Schwartz et al. discloses decomposing vectors to be displayed into elemental vector segments that are *encoded* as vector symbols. Schwartz et al. further discloses that the system has the capability of storing each vector in a compacted (i.e. compressed) form while retaining its attributes and identity in storage. Applicants contend that the specification discloses the usage of digital data in a television signal similar to that which is disclosed in Schwartz et al. The

means needed to format and transmit digital television signals in this manner were well known to those skilled in the art as of the filing date of this application.

The Examiner has failed to construe the claims in his analysis under the enablement requirement. The Examiner directs his analysis to the term “digital television signals,” but fails to demonstrate how this analysis applies to Applicants’ claims directed toward “digital” elements. Furthermore, means compatible with Applicants’ disclosure of formatting and transmitting digital television signals were well known in the art, contrary to the Examiner’s assertion. For at least these reasons, Applicants respectfully request the withdrawal of the rejection of the instant claims under the enablement requirement of 35 U.S.C. § 112, first paragraph.

(2) “Data” is Enabled by the Specification

Claims 1-399 and all claims depending therefrom stand rejected under 35 U.S.C. § 112, first paragraph, because the Examiner alleges these claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. (Office Action at 113.) The Examiner notes that the specification discloses that SPAM messages can be embedded within the “normal locations” of “other media” such as broadcast data or print. The Examiner also notes that the specification discloses that print or data information is transmitted within SPAM messages. Applicants acknowledge the disclosure from line 6 of page 85 through line 11 of page 86 of the instant specification, which describes that SPAM signals may accompany conventional print or data programming. It is unclear to what specific disclosure the Examiner refers by the specific citations recited on pages 115-117, and in the footnote on page 116 of the Office Action. The Examiner asserts that these disclosures are so contradictory that one of ordinary skill in the art would need to resort to undue experimentation to practice the invention. (Office Action at 115.) Applicants firmly assert that a thorough reading of the

specification shows that the disclosure is in no way contradictory with respect to the term "data."

Applicants disclose the use of SPAM signals to control and coordinate a wide variety of subscriber stations. (Spec. at 40.) The information of SPAM signals includes data, computer program instructions, and commands. (Spec. at 41 ll. 20-21.) One typical example of the composition of a SPAM signal is shown in Figure 2E. (Spec. at 44.) The specification clearly discloses that SPAM signals may included information segments. (Spec. at 44 l. 11.) Program instruction sets, intermediate generation sets, other computer information, and data may all be transmitted in information segments. (Spec. at 53 l. 34 through p. 54 l. 2.) Applicants disclose that SPAM signals can be embedded in many different locations in electronic transmissions. (Spec. at 85 ll. 6-7.) In broadcast and data communications transmissions, SPAM signals can accompany conventional print or data programming in the conventional transmission stream. (Spec. at 85 ll. 20-23.) More precisely, the conventional print or data information may be transmitted in an information segment of a SPAM signal. (Spec. at 86 ll. 1-11.) Thus, SPAM signals can be included in broadcast print and data communication transmissions. Also, conventional data information can be transmitted in an information segment of a SPAM signal. There is no conflict in this disclosure. Any person skilled in the art would be enabled to use SPAM signals to control and coordinate a subscriber station through a broadcast data communication transmission by reading the instant specification. After thoroughly reading the specification any person skilled in the art would require no undue experimentation to practice Applicants' claimed invention.

The Examiner asserts that Applicants' disclosure did not describe a system or method which formatted, transmitted, received, processed, or displayed data program units under control of associated SPAM messages because data program units were actually transmitted with the SPAM messages. (Office Action at 116.) The Examiner extends this conclusion to hold that the disclosure fails to set forth the means or steps

needed to make or use systems in which data is manipulated in the same manner as described for television and radio television program units. (Office Action at 117.) The Examiner's conclusion fails to follow from the stated facts. Data program units transmitted with SPAM signals can be manipulated under the control of the associated SPAM signal. The fact that data are disclosed as transmitted in the information segment of SPAM signals in no way conflicts with disclosed control of such transmissions through the use of the SPAM signals.

Furthermore, at most the Examiner's conclusion applies to data communication transmissions that are controlled through the use of SPAM signals accompanying data programming. However, the Examiner makes no attempt to construe the claims to determine how this rejection applies to the scope of each claim. Assuming *arguendo* that the Examiner's reasoning is correct, every use of the term data does not violate the enablement requirement of 35 U.S.C. § 112. Applicants recognize that the pending claims set forth an invention that may be used with broadcast print or data communications transmissions. However, Applicants submit that the instant rejection does not directly apply to the following claim limitations:

Claim 30, "transmitted data units,"

Claim 33, "distributing multimedia data,"

Claim 38, "multimedia data,"

Claim 39, "multimedia data,"

Claim 40, "multimedia data,"

Claim 41, "multimedia data,"

Claim 43, "multimedia data,"

Claim 44, "multimedia data,"

Claim 49, "analog data,"

Claim 63, "identification data,"

Claim 64, "identification data,"

Claim 77, "receiving data from at least one origination transmitter station,"

Claim 79, "communicating data," "processing data," "store data," "receiving data," and "transmitting an information transmission comprising said data,"

Claim 82, "a use of data," and "a source or supplier of data,"

Claim 83, "store or output said data," "decrypting at least a portion of said data," and "communicate said data,"

Claim 84, "selecting data,"

Claim 100, "inputted data," and "generating said subscriber station specific data,"

Claim 133, "subscriber data,"

Claim 140, "data is one of assembled and communicated in said network,"

Claim 152, "transmitting data," "communicating said data," and "receiving said data,"

Claim 153, "processing data," "storing data," "detecting embedded data," and "communicating or outputting data to said television monitor,"

Claim 161, "outputting data to said television monitor,"

Claim 163, "detected data," and "electronic or computer data,"

Claim 175, "embedded data comprises prices for each of a plurality of stock or financial shares,"

Claim 177, "storing said data,"

Claim 178, "processing data," and "embedded data,"

Claim 179, "digital data,"

Claim 180, "embedded data," and "detected data,"

Claim 181, "detected data,"

Claim 188, "embedded data,"

Claim 189, "embedded data,"

Claim 190, "embedded data,"

Claim 192, "embedded data,"

Claim 193, "embedded data,"

Claim 200, "embedded data,"

Claim 201 "embedded data,"

Claim 205, "embedded data," and "detected data,"

Claim 206, "providing data of interest to a receiver station from a remote data source," and "transmitting said data," and

Claim 207, "storing user data."

For at least the above reasons, Applicants submit that the subject matter defined by the above claims are described in the specification in such a way to enable any person skilled the art to make or use Applicants' invention. Accordingly, Applicants respectfully request that the rejection of these claims be withdrawn.

**c) The Best Mode of Practicing the Claimed Invention
Contemplated by Applicants is Disclosed in the Specification**

Claims 1-399 stand rejected under 35 U.S.C. § 112, first paragraph, because it is asserted that the best mode contemplated by the inventor has not been disclosed. (Office Action at 117.) The first paragraph of 35 U.S.C. § 112 provides that the specification "shall set forth the best mode contemplated by the inventor of carrying out his invention." A two step inquiry is used to determine if the best mode requirement is met. *Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 16 U.S.P.Q.2d 1033,1036 (Fed. Cir. 1990) First, the Examiner must determine whether, at the time Applicants filed their patent application, they knew of a mode of practicing the claimed invention that they considered to be better than any other. *Id.* Second, the Examiner must determine whether the disclosure is adequate to enable one skilled in the art to practice the best mode, if one was known to Applicants. *Id.* This inquiry is designed to preclude applicants from concealing preferred embodiments of their inventions which they have conceived. *Id.* The Examiner has failed to apply this test in rejecting the pending claims under the best mode requirement. The Examiner has failed to present evidence that Applicants concealed any

embodiment of their invention which they considered to be better than the embodiments disclosed in the instant specification. Therefore, Applicants respectfully request the withdrawal of the rejection of claims 1-399 under the best mode requirement of 35 U.S.C. § 112, first paragraph.

The Examiner compares the present case to *In re Ruschig*, 379 F.2d 990, 154 U.S.P.Q. 118 (C.C.P.A. 1967). The misapplication of *Ruschig* by the Examiner cannot substitute for the two step inquiry to be applied under a proper best mode analysis. The reasoning applied in *Ruschig* is inapplicable to the best mode rejection made by the Examiner in the instant case. First, the issue in *Ruschig* was whether a claim was supported by the disclosure of the appellants' application. *Id.* 154 U.S.P.Q. at 119. The analysis in *Ruschig* by the United States Court of Customs and Patent Appeals does not address the best mode requirement. Second, the *Ruschig* analysis is inapplicable to the facts in the instant case. In *Ruschig*, a claimed specific species of a genus of chemical compounds was not named or identified by formula in the specification. *Id.* 154 U.S.P.Q. at 121. The issue was whether the disclosure of the genus along with teachings of a number of other species would lead one skilled in the art to the claimed species. The Court held that the disclosure in *Ruschig* failed to include guides directing the selections required to arrive at the claimed compound rather than any of the many other compounds that could also be made within the genus. *Id.* 154 U.S.P.Q. at 123. The Court employed the analogy of travel through a forest. The Court found that the appellants were pointing to trees, but that there were no blaze marks to single out the trees that led to the unnamed compound. *Id.* 154 U.S.P.Q. at 122. The facts in *Ruschig* are in direct contrast to the present case. In *Ruschig* the claim limitation was *not* named or identified in the specification. In the instant case the Examiner acknowledges that Applicants' disclosure addresses the variety of claim limitations included in the claims. (Office Action at 119.) As the claim limitations are addressed by the instant specification, no blaze marks are required to lead a skilled artisan through a forest of possibilities to find them.

The Examiner asserts that he cannot recognize the pending claimed processes within the "woods." (Office Action at 120.) In response, Applicants have provided detailed support for each claim limitation. Applicants find it disingenuous for the Examiner to now assert that somehow Applicants have erred by describing numerous specific claim limitation details (*i.e.* pointing to the trees that make up the Examiner's woods.)

The Examiner asserts that there is a scattering of teachings across the multiple applications in the chain of continuity of the ancestor applications relied upon by the claim of priority in the instant application. (Office Action at 120.) The Examiner concludes that this scattering constitutes either (1) concealment of the best mode, or (2) a failure to meet the written description requirement. For the reasons set forth above in Part a), Applicants have fully complied with the written description requirement. Also as explained above in Part a), there is no scattering of teachings across applications. The instant application is a proper continuation application of Application No. 096,096, filed September 11, 1987, which in turn is a proper continuation-in-part of Application No. 317,510, filed November 3, 1981. The instant disclosure is substantially identical to the disclosure of Application No. 096,096 (the '87 disclosure.) The instant disclosure includes substantially all the subject matter in the disclosure of Application No. 317,510 (the '81 disclosure) and adds considerable details and improvements to the methods and apparatus disclosed therein. There is no scattering of teachings across these disclosures as asserted by the Examiner.

The Examiner confusingly questions whether Applicants disclosed their best mode in relation to the terms "data," "pending claim processes as a whole," and "digital." In accordance with M.P.E.P. § 2165.03, the Examiner should assume that the best mode is disclosed unless there is evidence to the contrary. The Examiner points to no evidence indicating Applicants contemplated a best mode of carrying out the claimed invention that they have failed to disclose. That the Examiner questions whether the best mode is

disclosed with respect to the “pending claim processes as a whole” is not evidence that Applicants concealed the best mode. With respect to the terms “data” and “digital,” the Examiner has utterly failed to apply the first step of the proper best mode analysis. The Examiner has failed to determine that Applicants knew that one mode was better than another. Therefore, the Examiner has failed to establish a proper best mode rejection. Applicants note that this best mode rejection appears to be a repetition of the enablement rejection, which asserts that no embodiment of Applicants invention claimed using the terms “data” or “digital” is adequately disclosed. The enablement rejection is fully addressed in Part b) above.

The Examiner has failed to apply the proper analysis in rejecting claims 1-399 under the best mode requirement of 35 U.S.C. § 112. The Examiner has failed to determine whether Applicants knew that one mode was better than another at the time the application was filed. Thus, the Examiner cannot determine whether the disclosure is adequate to enable one of ordinary skill in the art to practice the best mode. As the Examiner has failed to establish a proper rejection under the best mode requirement, Applicants respectfully request that these rejections under 35 U.S.C. § 112, first paragraph, be withdrawn.

2. The Claims Comply With 35 U.S.C. § 112, second paragraph

Claims 1-399 stand rejected under 35 U.S.C. § 112, second paragraph. (Office Action at 5 & 121.) The second paragraph of 35 U.S.C. § 112 mandates that the specification conclude with claims that meet two requirements. First, the claims must set forth the subject matter that Applicants regard as their invention. Second, the claims must be definite. The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994). When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated

when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Applicants submit that the Office Action fails to demonstrate that any claim is directed to subject matter that Applicants do not regard as their invention. The Office Action also fails to demonstrate that any claim fails to reasonably apprise those of skill in the art of its scope. Applicants, therefore, respectfully request the withdrawal of these rejections under 35 U.S.C. § 112, second paragraph.

Claims 1-399 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is directed to the terms “programming” and “programming.” No further reasons are given to support this rejection. The Examiner utterly fails to indicate why any claim fails to reasonably apprise those of skill in the art of its scope. This rejection is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection and is therefore invalid under 35 U.S.C. § 132. Accordingly, Applicants respectfully request that this rejection be withdrawn. The claim language “programming” and is address below in Part b).

a) The Claims Define That Which Applicants Regard as Their Invention

Claims 1-399 stand rejected under 35 U.S.C. § 112, second paragraph, because the Examiner asserts that the claims fail to set forth the subject matter which Applicants regard as their invention. (Office Action at 121.) The Examiner requests “to remove all claim terms from pending claims when [their] conceptual meanings are not identical.” This logic is incorrect for the reasons given in Part 1.a)(2)(r) above, in which Applicants maintain that the subject matter in the ‘81 disclosure is specifically included in the instant specification.

Furthermore, the Examiner has merely pointed to evidence that Applicants believe that the claims are supported by the ‘81 disclosure. The conclusion that the claims fail to set forth subject matter which Applicants regard as their invention simply does not follow

from the fact that Applicants believe that the claims are supported by the '81 disclosure. Applicants believe that the claims define an invention that is fully disclosed in both the '81 disclosure and the instant specification. The Examiner has failed to point to any evidence indicating that Applicants regard the invention to be something other than what is defined by the claims. As Applicants have consistently regarded the subject matter defined by the instant claims to be their invention, Applicants respectfully request the withdrawal of this rejection of claims 1-399 under 35 U.S.C. § 112, second paragraph.

**b) There is no discrepancy in the use of the term
"Programming"**

In considering claims, the Examiner suggests that the Applicants' use of the term "programming" in the pending claims is "repugnant to the normal/usual use of said terminology." (Office Action at 96.) The Examiner further suggests that, in the '81 disclosure (in the Parent Application No. 317,510 filed November 3, 1981), the Applicants defined the term "programming" as "everything transmitted over television or radio intended for communication of entertainment or to instruct or inform." The Examiner relies on the definition of programming set forth in the abstract of the disclosure. "The purpose of the Abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract shall not be used for interpreting the scope of the claims." 37 C.F.R. § 1.72(b). By properly making reference to the whole specification, the Examiner will get a more complete understanding of Applicants' meaning of the term "programming".

"It is the object of this invention to unlock this potential [for a significant increase in the scope and scale of multi-media and multi-channel presentations] by the development of means and methods which permit progra[m]ming to communicate with equipment that is external to television and radio receivers, particularly computers and computer peripherals such as printers." "It is the further purpose of this invention to

provide means and methods to process and monitor such transmissions and presentations at individual receiver sites and to control, in certain ways, the use of transmitted progra[m]ming and the operation of certain associated equipment. Such receiver sites may be stations or systems that intend to retransmit the progra[m]ming, or they may be end users of the progra[m]ming. The present invention contemplates that certain data may be encrypted and that certain data collected from such processing and monitoring will automatically be transfer[r]ed to a remote geographic location or locations.” U.S. Patent No. 4,694,490, col. 1, ll. 22-24, 36-53.

Applicants contend that the definition of “programming”, to include television and radio entertainment information, computer programming and data to control execution of a processor, in the present application is clearly supported by the definition of the term “programming” in the ‘81 disclosure.

Applicants assert that their use of the term “programming” in the present application is both consistent with normal/usual usage and with the parent application. *Webster’s Seventh New Collegiate Dictionary* (1977) gives separate definitions for the noun and verb forms of “programming”. The noun form of “programming” is defined with a series of gerunds:

“programming or programing ... n : the planning, scheduling, or performing of a program.”

And the noun form of “program”, which includes the word “programming” in its definition, is:

“program or programme ... n ... 1 ... : a public notice 2 a : a brief usu. printed outline of the order to be followed, of the feature or features to be presented, and the persons participating (as in a public exercise, performance, or entertainment) b : the performance of a program; esp : a performance broadcast on radio or television 3 : a plan or system under which action may be taken toward a goal 4 : CURRICULUM 5 : PROSPECTUS, SYLLABUS 6 a : a plan for the programming of a mechanism (as a computer) b : a sequence of coded instructions that can

be inserted into a mechanism (as a computer) or that is part of an organism
7 : matter for programmed instruction”

The verb form of “programming” is defined with the verb form of “program” and
is:

**“program also programme vt -grammed or -gramed; -gramming or -
graming 1 a :** to arrange or furnish a program of or for : BILL **b :** to
enter in a program **2 :** to work out a sequence of operations to be
performed by (a mechanism) : provide with a program **3 :** to insert a
program for (a particular action) into or as if into a mechanism”

Applicants assert that these definitions are entirely consistent with Applicants’
present and parent application. For example, the ‘81 disclosure describes a well known
television program, “Wall Street Week”, at U.S. Patent No. 4,694,490 (hereinafter ‘490)
col. 19 l. 5 through col. 20 l. 7. At ‘490 col. 19 l. 48-53 and col. 19 l. 63 through col. 20
l. 7, Applicants disclose a sequence of operations performed by a mechanism (a
computer) which includes a first output (‘490 col. 19 l. 65 through col. 20 l. 2) and a
second output (‘490 col. 20 l. 6). This sequence of operations is performed in response to
“several instruction signals” (‘490 col. 19 l. 46) followed by “an instruction signal” (‘490
col. 19 l. 60). (That Applicants’ “signals” are coded is disclosed at ‘490 col. 11 lines 12-
14 where a code reader passes the signals to a computer.) Applicants assert that these
disclosed instruction signals (‘490 col. 19 l. 48-53 and 60-67) clearly meet the dictionary
definition of a program--“a sequence of coded instructions that can be inserted into a
mechanism (as a computer)”--and are, in fact, what is now, and was in 1981, widely
known among those of considerably less than ordinary skill in the art as “a computer
program” and as “computer programming”.

Applicants also assert that the first output (‘490 col. 19 l. 65 through col. 20 l. 2)
and a second output (‘490 col. 20 l. 6), *by themselves*, also meet the dictionary definition
of a program--“the performance of a program”. Furthermore, Applicants contend that
they constitute both computer programming *and television programming*. Being
generated and outputted by a computer qualifies them as computer programming. Being

displayed as an integral part of a television program--"Wall Street Week" ('490 col. 19 l. 45, 54-60, and col. 19 l. 67 through col. 20 l. 2)--qualifies them as television programming.

Finally, Applicants assert that this disclosure is in no way inconsistent with the meaning given to "programing" in the Abstract of Applicants' parent disclosure--"everything transmitted over television or radio intended for communication of entertainment or to instruct or inform." Applicants clearly disclose that the signals are "instruction signals embedded in the 'Wall Street Week' programing transmission" ('490 col. 19 l. 43-44) and that "These signals instruct" ('490 col. 19 l. 48) and "This signal instructs" ('490 col. 19 l. 64-65).

For the reasons set forth above, Applicants assert that the term "programming" as used throughout the instant application to include what are commonly known as television, radio and computer programming is clearly and unambiguously supported by the specification as filed and withdrawal of the corresponding rejection is respectfully requested.

G. Response to Rejections under 35 U.S.C. § 102

1. Rejection under 102 (b) over Applicants' U.S. Pat. Nos. '490 & '725

Claims 1-399 stand rejected under 35 U.S.C. § 102(b). The Examiner asserts that claims are clearly anticipated by Applicants' own U.S. Patent Nos. 4,694,490 and 4,704,725. (Office Action at 129.) The instant application claims the benefit under 35 U.S.C. § 120 of the filing date of both the previous applications that matured into the patents relied upon by the Examiner. Accordingly, neither of the patents relied upon by the Examiner is available as a reference under 35 U.S.C. § 102(b). The Examiner asserts that the instant specification fails to adequately support the instant claims. This assertion is incorrect and irrelevant to Applicants' claim of priority under 35 U.S.C. § 120.

Under 35 U.S.C. § 120, an application obtains the benefit of the filing date of a previously filed patent application if (a) the invention is disclosed in the manner provided by the first paragraph of section 112 in the previously filed application, (b) the application is filed by inventors named in the previously filed application, (c) the application is filed before the patenting or abandonment of or termination of proceedings on an application similarly entitled to the benefit of the filing date of the first application, and (d) the application contains a specific reference to the earlier filed application. The instant application meets each of these requirements with respect to Applicants' previous Application No. 317,510 filed November 3, 1981. The Examiner acknowledges that Application No. 317,510, discloses the subject matter of the instant claims. The same inventors as filed the instant application filed application No. 317,510. The instant application was filed before the termination of proceedings of Application No. 113,329, filed August 30, 1993, (currently pending) which is similarly entitled to the benefit of the filing date of Application No. 317,510. The instant application contains a specific reference to the entire chain of Applicants' applications extending back to Application No. 317,510. As the instant application meets all the requirements of 35 U.S.C. § 120, the instant application is entitled the benefit of the effective filing date of November 3, 1981. Accordingly, neither U.S. Patent No. 4,694,490 nor No. 4,704,725 are available as prior art under 35 U.S.C. § 102(b) as neither was patented or published more than one year prior to November 3, 1981.

Furthermore, the Examiner asserts, "this rejection, under 35 U.S.C. § 102(b), is caused by Applicants choice to cite passages that did not exist in the original '87 C.I.P. disclosure." Applicants respectfully assert that the showing that the instant claims are supported by the '81 disclosure cannot form the basis for this rejection under 35 U.S.C. § 102(b). To the contrary, the showing establishes that the instant claims are entitled to an effective filing date of November 3, 1981. Additionally, Applicants assert that the

instant claims are fully supported by the instant specification as discussed above in Part F.1.a) above.

For at least the above reasons, Applicants respectfully submit that U.S. Patents Nos. 4,694,490 and 4,704,725 are not available as prior art with respect to the presently pending claims. Applicants, therefore, request the withdrawal of the rejection of claims 1-399 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patents 4,694,490 and 4,704,725.

H. Response to Rejections under 35 U.S.C. § 103

1. *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references combined) must teach or suggest all the claim recitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

2. Rejection under 103 (a, b & e) over Applicants WO 89/02682.

Claims 1-399 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' WO 89/02682.

The Examiner asserts that all the instant claims are unpatentable over WO 89/02682 to the extent that applicants can satisfy the support enablement requirement of Section 112, first paragraph, but not the support requirement. WO 89/02682 is the international publication number of the Applicants' own international application

published March 23, 1989. The specification of this international application substantially corresponds to the specification of the instant application and the specification of the parent application filed September 11, 1987. Claims 2 to 303 are entitled to the effective filing date of November 3, 1981. However, assuming *arguendo* that the claim of priority to the 1981 application is flawed, then the claims are entitled to an effective filing date of September 11, 1987. In either case, this international application published March 23, 1989, is unavailable as prior art. Accordingly, Applicants request the withdrawal of this rejection of claims 1-399 under 35 U.S.C. § 103(a).

3. Rejection over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.

Claims 1-399, that are directed to processes of controlling cable head end processes and monitoring of those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.

The Office Action states that “considering pending claims of the group 1-399, that cover, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are suggested by [Greenberg].”

First, Applicants traverse this rejection on the grounds that Greenberg is an unavailable reference in that it was filed on March 21, 1983, subsequent to Applicants’ priority date of November 3, 1981. Additionally, Galumbeck et al. is an unavailable reference in that it was filed on April 21, 1983, again subsequent to Applicants’ priority date of November 3, 1981.

Secondly, the Office Action fails to analyze any of Applicants’ claim language in the rejection but rather chooses to summarize the specific contents of the instant 399 claims (numbers 1-399) with the statement, “processes of controlling cable head end processes and monitoring of those processes and combined medium presentation.” The

Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected." This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*." (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, "In every letter, each pending claim should be mentioned by number, and its treatment or status given." Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be

ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

4. Rejection over over Jeffers et al., U.S. Pat. No. 4,739,510.

Claims 1-399, that are directed to, *inter alia*, processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeffers et al., U.S. Pat. No. 4,739,510.

The Office Action states that "considering pending claims of the group 1-399, that cover, *inter alia*, processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and

combined medium presentation they cover what [Jeffers et al.] suggests...broadcast programming including, *inter alia*, audio and control signals that are digitized and inserted into the horizontal blanking interval of distributed television programming.”

First, Applicants traverse this rejection on the grounds that Jeffers et al. is an unavailable reference in that it was filed on April 2, 1987, subsequent to Applicants’ priority date of November 3, 1981. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

Secondly, the Office Action fails to analyze any of Applicants’ claim language in the rejection but rather chooses to summarize the specific contents of the instant 399 claims (numbers 1-399) with the statement, “processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation ...broadcast programming including, *inter alia*, audio and control signals that are digitized and inserted into the horizontal blanking interval of distributed television programming.” The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must

be clearly explained and *each rejected claim specified.*" (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, "In every letter, each pending claim should be mentioned by number, and its treatment or status given." Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

5. Rejection over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.

Claims 1-399, that are directed to, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.

a) Characterization of References

(1) Hazelwood et al.

Hazelwood et al. states,

In accordance with a preferred embodiment of the invention, each network originated program is coded with a data signal from which each program may be identified. This coded data signal may take the form of a code identifying the program itself, or the code may identify the source of the program and the time that the program originated to permit the program to be identified from the station logs. The encoding is done by placing binary data on line 20 or any other unused line in the vertical interval. The coded signal is applied to the network where it is received by the network affiliated stations for immediate or delayed broadcast.

A plurality of monitoring sites are disposed about the network coverage area to monitor the programs broadcast by the network affiliates. The monitoring may be done remotely by means of a monitor receiver that receives the programs broadcast by the network affiliates and recovers the data encoded on line 20. Alternatively, the monitoring unit may be installed on the premises of the network affiliate to monitor the program material applied to the transmitter. In the latter

case, there is no need to transmit the data encoded on line 20, and the data may be stripped off by the monitoring unit before the signal is applied to the transmitter.

In either case, the data recovered from line 20 is stored at the remote location in a change format, that is, a format wherein the data is stored once, and new data is stored only when there is a change in the data. In addition, data indicative of the time interval between changes in data is stored. The time information permits delayed broadcasts to be identified since the real-time data will not correspond to the network time data in a delayed broadcast.

Each remote unit is periodically interrogated (usually once per day) via telephone line by a centrally located computer that controls a mini-computer located in each of the remotely located monitor units. Upon interrogation, the mini-computer causes the stored data to be transmitted in blocks to the central computer together with error checking data to permit the central computer to request the remotely located mini-computer to retransmit the data in the event that an error is found. In addition, each remotely located mini-computer may be reprogrammed by the central computer in the event that a modification of the data handling is desired. This is accomplished by providing each remotely located mini-computer with a hard-wired read-only memory (ROM) that initiates the data processing and transmission and a random-access memory (RAM) which may be reprogrammed by the central computer upon completion of the read-only memory routine. (Column 2, lines 8-59.)

In response to the Office Action's characterization of Hazelwood et al., on page 134, the Office Action states that "the embedded codes ... identify the programming being broadcast by *title*,..." (emphasis added). Hazelwood et al. fails to teach identification by "title," but rather, "identified by the source identification code ... and the time of origin ... serving to identify the program. Alternatively, a unique program identifying code can be generated for identifying each program, and used instead of or in addition to the time and source identification code;..." (column 5 lines 61-66).

The Office Action on page 134 characterizes Hazelwood et al. as teaching "the embedded monitoring *instruction* codes..." and, "means for performing communication *programming* to a storage device," (emphasis added). Hazelwood et al. fails to teach "instruction codes," and "performing communication *programming* to a storage device," but rather "a data signal from which each program may be identified," (column 2 line 11), is "transmitted in blocks to a central computer..." (column 2 lines 46-47).

Additionally, the Office Action on page 135 states, "At the encoder 12 of Fig. 1, has to have (sic) been controlled so as to communicate the monitoring codes to the summing circuit 14 at "selected" times in view that the monitoring codes were carried through the line at the selected time in which they were provided to summing circuit 14."

Applicants' best understanding of the Office Action's characterization may apply to:

Claim 9, 16, 21, 28, 29, 35 & 44, "a re-transmission time,"

Claim 6, 10, 13, 18, 22, 25, 36 & 4, "a predetermined time,"

Claim 12 & 328, "a transmission time,"

Claim 33, "asynchronous time,"

Claim 39 & 40, "a synchronizing time,"

Claim 52 & 221, "a specific time,"

Claim 82, 212, 223 & 295, "time of transmission,"

Claim 93, "time for communicating,"

Claim 123 & 145, "a scheduled time,"

Claim 153, "a selected time,"

Claim 211, "a time at which to communicate,"

Claim 214 & 217 "a first time interval of specific relevance,"

Claim 321 & 333, "a time for transmitting,"

Claim 117, 139 & 345 "different times," and

Claim 395, "an output time."

However, Hazelwood et al. mere teaches that "the video information from the camera 10 is combined with the coding information from the encoder 12 at a mixing point 14 before the signal applied to a network feed line 16 which feeds all of the local network affiliates such as the network outlet 18 shown in Fig. 1," (column 3 lines 23-28). There is no teaching in Hazelwood et al. of "selected times" of embedding identification codes other than when programming is being feed from camera 10 to mixing point 14.

(2) Yaname et al.

Yaname et al. teaches at page 15 “transmitting by multiplexing a control signal together with the identification signal on the program signal,” wherein the control signal is characterized by a “ Q_E signal transmitted from Station Line ...[when Q_E is] received by Station M, Station M switches its circuit toward Station Line, and each lower station thereafter switches its circuit toward the next transmitting station in turn.” This switching function as initiated by the control signal (Q_E) at the transmitter stations initiates communication to confirm “that the trouble did not occur between itself and the next higher station, troubleshooting can effect rational recovery action without damaging stations unnecessarily.”

(3) Hetrich

Hetrich teaches control signals “are preferably sent over the network lines during non-programming periods such as the normal one minute station breaks between programs,” (page 11). “These control signals may be used to start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements, etc.,” (page 10).

In response to the Office Action’s characterization of Hetrich, the Office Action on page 136 states that, “Hetrich discloses ... embedding control signals used for *identifying* the portions of the network programming which are to be recorded by the storage device of the affiliate stations for delayed re-broadcast,” (emphasis added). However, Hetrich fails to teach or suggest the control signals “identifying the portions of the network programming.” All Hetrich teaches the control signals are operative to do is to “start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements,” (at page 10).

Additionally, the Office Action's characterization of Hetrich on page 137 states that, "the control codes are effective to instruct the affiliate station to delay the network programming for some selected period of time." Applicants traverse this interpretation of Hetrich's disclosure since all that the control signals are disclosed to accomplish is to "start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements," (at page 10). There is no teaching or suggestion that the control signals "instruct" the network station to delay the network programming, but merely to start and stop a recording device at the network station. The disclosure anticipates the subsequent broadcasting of the special recorded programs, but fails to indicate that the record start/stop control signal additionally "instructs" the subsequent rebroadcasting.

b) Absence of Comparison of Cited References with Applicants' Claim Language

The Office Action states that "considering pending claims of the group 1-399, that cover, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation [Hazelwood] suggests the term 'processor' wherein the network station, the affiliate station, and the individual circuits which make up the network and affiliate stations, all function to process signals and hence are considered processors of a kind."

The Office Action fails to analyze any of Applicants' claim language in the rejection but rather chooses to summarize the specific contents of the instant 399 claims (numbers 1-399) with the statement, "processes of controlling cable head end processes and monitoring of those processes and combined medium presentation... wherein the network station, the affiliate station, and the individual circuits which make up the network and affiliate stations, all function to process signals and hence are considered processors of a kind." The Examiner has failed to identify which, if any, claims actually

fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected." This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*." (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, "In every letter, each pending claim should be mentioned by number, and its treatment or status given." Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

c) Office Actions Improper Motivation for Combining References

The Office Action on page 136 states, "pending claims of the 1-399, directed to, *inter alia*, processes of controlling cable head end processes and combined medium presentation, not suggested by [Hazelwood et al.], are further suggested [by] Yaname et al. and [Hetrich]." However, the Examiner never states what elements of Applicants' claims were not suggested by the base reference Hazelwood et al. Applicants traverse this rejection as being improper and request withdrawal of the rejection.

(1) Improper Combination of Hazelwood et al. in view of Yaname et al.

Applicants contend that the Office Action improperly combined the switching control codes of Yaname et al. with Hazelwood et al. The disclosure of Hazelwood et al.

is directed toward the storing of embedded program identifiers at either network affiliate stations or at viewer receiver stations. Hazelwood fails to teach or suggest any anticipation of transmitted control codes that alter transmitter stations' circuits to switch output toward upline transmitter stations as taught by Yaname et al. The only disclosure in Hazelwood et al. regarding altering the functionality of a station is the reprogramming of the data collecting monitoring devices by a central data collection station via telephone lines. The Examiner cannot assume it is obvious to modify Hazelwood et al. in view of the control codes of Yaname et al. simply due to the fact that both disclosures have "identification codes" in common, when the base reference Hazelwood et al. fails to anticipate any need for the alleged modifying multiplexed control signal of Yaname et al. that changes the functionality of switching output at a transmitter station. Applicants traverse the rejection combining Hazelwood et al. and Yaname et al. for failing to provide proper motivation for combining the references since there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

(2) Improper Combination of Hazelwood et al. and Yaname et al., further in view of Hetrich.

Assuming *arguendo*, that it would have been obvious to modify Hazelwood et al. in view of Yaname et al., Applicants traverse the combination of Hetrich with the two mentioned references. Applicants contend that there was no motivation provided and that it would be improper to combine the recording start and stop control signals transmitted at station breaks of Hetrich with the transmitting station circuit switch control signals of Yaname et al. The Examiner cannot assume it would have been obvious to modify Hazelwood et al. and Yaname et al. further in view of Hetrich due to the fact that both disclosures have "control signals" in common. Yaname et al. discloses transmitting control codes for the purpose of switching output circuits at transmitter stations for the

purpose of confirming that the transmission trouble (errors) did not occur between itself and the next higher transmitter station. There is no teaching or suggestion in Yaname et al. that the disclosed Q_E signal could be modified to anticipate and other function including the starting and stopping of recorders during non-program periods as disclosed by Hetrich. Applicants traverse the rejection combining Hetrich with Hazelwood et al. and Yaname et al. for failing to provide proper motivation for combining the references since there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

6. **Rejection over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze "Television Line 21 Encoded Information and It's Impact on Receiver Station Design"; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.**

Claims 1-399, that are directed to, *inter alia*, processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes, are rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze "Television Line 21 Encoded Information and It's Impact on Receiver Station Design"; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.

a) Office Action's Failure to Identify Applicants Claim in the Rejection

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), "If the invention is not

considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

Applicants summarize the rejection:

- 1) The Office Action states, “Campbell et al. suggest (sic) the claims that cover an addressable cable television control system controlling television program and data signal transmission from the cable head end to the subscriber stations,” (at page 139).
- 2) The Office Action then characterizes the Campbell et al. reference with no specific mention to any claims at issue in the instant application.
- 3) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. are suggested by Breeze,” (at page 141).
- 4) The Office Action then characterizes the Breeze reference with no specific mention to any claims at issue in the instant application.
- 5) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. and are not suggested by Breeze, are suggested by [Schnee],” (at page 142).
- 6) The Office Action then characterizes the Schnee reference with no specific mention to any claims at issue in the instant application.
- 7) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. and are not suggested by Breeze, are not suggested by [Schnee], are suggested by [Zaboklicki],” (at page 142).

8) The Office Action then characterizes the Zaboklicki reference with no specific mention to any claims at issue in the instant application.

9) The Office Action states that “it would have been obvious ... for providing cable subscribers with enhanced interactive processes including enhanced conventional entertainment, providing useful information, and offering greater control to the cable head end operators.” Applicants note that in the entire rejection, not one word of Applicants’ instant claim language was addressed. It seems that the Examiner uses broad characterizations of general concepts found in the instant application and elsewhere in Applicants’ co-pending applications to make this rejection.

Applicants traverse this grounds of this rejection as being improper for failing to identify Applicants’ specific claim language that allegedly reads on the prior art.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*.” (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, “In every letter, each pending claim should be mentioned by number, and its treatment or status given.” Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

b) Rejection further in view of Zaboklicki.

Zaboklicki discusses in general terms (as best understood by Applicants) an "interactive television system" (i) wherein "a local central unit is provided in the home television receivers on the receiver side; that central unit switches the data selection systems on the basis of the television viewer's answer and on the basis of the centrally

transmitted digital processing program for the television segments (transmission fragments)” (English language translation of DE 29 04 981 A 1 at 10 ll. 13 - 18); (ii) with “individual variants of ... additional information ... passed on in the form of acoustic or sound signals in the television receiver in the infrared band to the individual infrared receivers” (*id.* at 11 ll. 2 - 7); (iii) with “participation of the television viewer in the centrally transmitted telecast in such a way that the output signals of the local central unit in the viewfinder of the television camera turn on the contours of the person is provided for by the director [whereby the shape of the viewer contained in these contours is blended into the main content” (*id.* at page 12, lines 8 - 13); and (iv) wherein, “[i]n the case of telecasts where an answer or the opinion of the television viewers is desired... the viewer’s answer is put out parallel and converted into telephone signals... introduced into the subscriber telephone line... [and] supplied to the monitor in the television studio after statistical processing” (*id.* at 12, l. 13 through p. 13 l. 3).

In fact, Zaboklicki is so vague and indefinite in its description of the technology that virtually any reliance on the publication as prior art in the instant application can only be based on speculation and conjecture about the functionalities alleged to be provided by, or the method of operation of, the Zaboklicki system. Zaboklicki is not an enabling publication.

Applicants note the PTO has supplied and relies on a translation of German Patent publication No. DE 2904981 A 1 in formulating the rejections of the subject claims. Applicants have found that the applied German Patent publication is based on an earlier Polish patent application No. PL 204525 A filed February 9, 1978. In addition to the German publication, the earlier Polish application also forms the basis for French patent publication FR 2417226 A published October 12, 1979 and British patent publication GB 2016874 A published September 26, 1979.

After careful review of the Polish application and British publication, it is self evident that neither the translation provided by the PTO nor the British patent publication

(presumably prepared or approved by Zaboklicki) indicates or suggests any method of operation of, or relationship between, the blocks shown in the various figures. In fact, it is difficult or impossible to determine what functions are being performed by the blocks shown in the various figures because many of the labels are not descriptive, failing to articulate or indicate the intended function. The written description does not cure this defect of the disclosure, failing to describe the functions or the interactions between the blocks. Examples of labels inadequately describing the structure of and function performed by the corresponding blocks are included in the following table.

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
4	The circuit for the prescreening of information items for television viewers	preliminary screening of the information items for the television viewer	distributes the information for viewers
5	The control circuit	None	output of control system 5 is additionally fed to the circuits 8 and 10 and is also applied to a circuit 11 for restoring the music signal
6	The central unit (the processor, for example, integrated microprocessor)	the output signals of the central unit 6 control a data selection circuit 8; energizes a sound signal switching unit 20 in at least one additional sound channel	output of circuit 3 is fed to a processor 6 ... [which] is also fed with signals representing the viewer's answer from the circuit 2 [and] transmits a digital programme of manipulation, viewers' answers and the successive identification data of ... individual fragments of the broadcast to a store or memory (RAM) 7; keyboard 12 feed into the processor 6 and the latter output to a transmitter of infra-red signals 13 which produces a remote control signal at 14; Digital data and audio signals with different variants of additional information are applied at 15 to the input of a receiver 16 of infra-red signals having an output in the form of digital data fed over line 17 to processor 6; switching-on of the selected audio channel as determined by the processor 6
10	The circuit for video signal conversion and image illumination	used to convert video signals and for image illumination	for converting video signals and displaying a picture

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
11	The circuit for sound signal restitution	circuit for sound signal restitution	for restoring
15	The digital data and the phonics with the different variants of additional information	None	input of receiver 16
19	The command for sound turn-on in the corresponding channel	command for a sound signal of a corresponding channel that is supplied to a circuit 20 for turning on the selected sound channel	commands to switch-on the audio signal from a specific channel are fed over the command line 19 from the processor 6 to the receiver 20
27	The switchover of the television channels for the prescreening of the corresponding fragments of a telecast	line for switching over television channels for preliminary screening of the corresponding fragments of a telecast	television receiver 54 is fed over line 53 with control signals from the remote control signal receiver 52 and over the one 27 from the output system 49 of the processor
28	The short term of call signal transmission during which the answer is delayed	control signal for the delay of the answer, which represent the short span of time during which call signal transmission takes place and during that time span, the answer is delayed.	[Control system 32] is also fed via 28 with a short delay signal for sending the dialing signals when the answer is postponed
29	The prefix generator for transmission announcement of the television viewer's answer	for a transmission announcement of the television viewer's answer with a subscriber generator 30 and with a circuit 31 to generate the television viewer's answer	prefix generator for announcing the transmission of the televiewer's answer
35	The circuit for the introduction of the initial data of the television viewers	serves to put in initial data from the television viewers	circuit for introducing the televiewer's answers
36	The circuit for the prescreening of the digital data from the video signal	causes the preliminary screening of the digital data of the video signal	system for distributing the digital data from the video signals
38	The multiplexer circuit	supplies a signal for the subscriber telephone line 33.	Output from the units 29 and 30, 31 and 32 are applied to a multiplexer 38 whose output 46 is in turn fed to a subscriber telephone line
40	The circuit for the prescreening of the digital handling program (telesoftware) and the identification data of the individual fragments of the telecast	for the prescreening of digital processing programs and the identification data of the individual transmission fragments with the input circuits 39	system for separation of the telesoftware and the identification data of the individual fragments of the broadcast

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
41	The data selection circuit of the circuit for the comparison of the addresses of the teletext information items	constitutes a data selection circuit or a circuit for the comparison of the addresses of text information, for example, page numbers. Local central unit 6 switches over the data selection circuits 41 as a result of the answers form a television viewer and the digital processing programs which are supplied to the central unit 39 by the output circuit	information selections system or a system for comparing the address of the teletext information, for example the page number, in conjunction with the local processor 6 for switching over the information selection system depending upon the viewers answer and on the telesoftware
42	generator of the alphanumeric and graphic symbols	generator for alphanumeric and graphic symbols	alphanumeric and graphic character generator
43	circuit for turning on one of the additional sound channels in the television receiver (54)	switch-on or for the operation of additional sound channels of a television receiver 54	audio channel switch for switching on the sound signal in the television receiver
45	multiplexer circuit	multiplexer circuit	multiplexer of the receiver
46	signal output for the subscriber telephone line	None	none
47	circuit for the prescreening of the symbols for the control of the image illumination function	prefiltering or prescreening of the symbols for the control of image illumination	system for distributing characters to the display control
48	output circuit for symbols	output circuit	character output system
51	multiplexer circuit in the viewfinder of the television camera for the application of the graphic symbols on the image	multiplexer circuit 51 in the viewfinder of a television camera is used to project the graphic symbols into the image of receiver 54 of the television camera that furthermore is connected to a receiver 52 for a remote-control signal	multiplexer system
54	television receiver with at least one additional sound channel	Receiver	television receiver including an audio channel switch 43 for switching on the sound signal I the television receive and an output circuit 55 for the video signal

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
56	teletext decoder with the additional data output after hamming decoder	a video text decoder 56 with an additional data output (hamming decoder)	teletex decoder having an additional data output behind the Hamming decoder comprising a control system 26, a system 36 for distributing the digital data from the video signals, a system 40 for separation of the telesoftware and the identification data of the individual fragments of the broadcast, an information selection system 41, (or a system for comparing the address of the teletex information, for example the page number, in conjunction with the local processor 6 for switching over the information selection system depending upon the viewers answer and upon the telesoftware), an RAM memory 44, a system 57 for distributing control characters, (for example no display), an alphanumeric and graphic character generator 42, a system 47 for distributing characters to the display control and a character output system 48.
57	circuit for the prescreening of the control symbols, for example, a command: do not illuminate	A circuit 57 in decoder 56 is used for the prefiltering of control signals or control commands (For example, do not illuminate.)	system for distributing control characters, (for example no display)

It is established that prior art must be enabling. *Rockwell Int'l. Corp. v. United States*, 147 F.3d 1358, 1365, 27 U.S.P.Q.2d 1027 (Fed. Cir. 1998). "In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method." *Beckman Industries, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 U.S.P.Q.2d 1301, 1304 (Fed. Cir. 1989) (citing *In re Payne*, 606 F.2d 303, 314, 203 U.S.P.Q. 245, 255 (CCPA 1979)). Accordingly, in *Beckman*, held as a correct statement of the law were jury instructions that stated, "References relied upon to support a rejection for obviousness must provide an enabling disclosure. That is to say, they must place the claimed invention in the possession of the public." *Id.* at 1550-51, 13 U.S.P.Q.2d at 1303-4. The Federal Circuit has observed that "even if the claimed

invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling.” *In re Donohue*, 766 F.2d 531, 533, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985) (citing *In re Borst*, 345 F.2d 851, 855, 145 U.S.P.Q. 554, 557 (C.C.P.A. 1965), cert. denied, 382 U.S. 973, 148 U.S.P.Q. 771 (1966) (“the disclosure must be such as will give possession of the invention to the person of ordinary skill”)). *See also In re Epstein*, 32 F.3d 1559, 1568, 31 U.S.P.Q.2d 1817, 1823 (Fed. Cir. 1994); *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 651-52, 223 U.S.P.Q. 1168, 1173 (Fed. Cir. 1984); *Preemption Devices, Inc. v. Minnesota Mining & Manufacturing Co.*, 732 F.2d 903, 906, 221 U.S.P.Q. 841, 843 (Fed. Cir. 1984).

If anything is clear, it is that Zaboklicki does not place the technology of Applicants’ invention into the hands of the public. The reference to Zaboklicki at most presents some block diagrams which, as best understood, are directed to the four functions previously outlined. The details of these functionalities or how they are accomplished are not described in sufficient detail or with sufficient clarity to constitute an enabling disclosure.

Therefore, Applicants respectfully request the withdrawal of this rejection of claims 1-399 under 35 U.S.C. § 103(a).

7. **Rejection further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat. No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat. No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakihara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.**

Claims 1-399, that are directed to, *inter alia*, either processes of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, that fall out each particular determining group members of the group of claims described in rejection above, the groups are rejected further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat. No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat. No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakihara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.

a) The Provisional Rejection over Numerous References is Improper

Paragraph 19 of the Office Action it is stated: "Pending claims of the group 1-399 that are directed to, *inter alia*, either process of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, or both, that fall out each particular determined group members of the group of claims described in rejection above, the groups are provisionally rejected further in view of one or more of [some thirty-six listed references]." This statement clearly fails to state a proper rejection. This statement fails to provide reasons for a rejection and is clearly so uninformative that it prevents the applicant from recognizing and seeking to counter any potential grounds for rejection. Applicants cannot determine to what claims this statement is applicable. The Examiner has failed to cite to the best references and avoid merely cumulative references. The references cited include at least some that cannot be relied upon as prior art against the pending claims. The Examiner has failed to explain the pertinence of each reference and to specify each rejected claim. The Office Action includes an explanation of the Examiner's understanding of the level of skill in the art in terms of some of the cited references. However, this explanation fails to include the elements of a proper rejection under 35 U.S.C. § 103(a). Furthermore, the statement does not purport to be a rejection, but rather states that groups are *provisionally* rejected. Applicants find no rejection in this statement by the Examiner to which a response from Applicants is required.

The Examiner has no authority to "provisionally" reject claims in view of one or more of a large group of generally cumulative references. The Office Action includes no reference to any authority for this "provisional" rejection. The M.P.E.P. provides for a provisional rejection only in the situation where a pending application upon issuance will become valid prior art, against provisionally rejected claims, under 35 U.S.C. § 102(e),

35 U.S.C. § 101 (statutory double patenting), or the judicially created doctrine of obvious type double patenting. The pending application used in the provisional rejection must have a common assignee or common inventor with the application containing the provisionally rejected claims. *See*, M.P.E.P §§ 706.02(f), 706.02(k), and 804. The provisional rejection is permitted to alert applicants that they should expect an actual rejection on the merits if and when the applied pending application issues. There is no authority nor is there any good reason to issue a provisional rejection over references that are issued patents or have been published. The Examiner appears to attempt to alert Applicants to potential rejections that will be made once the Examiner has fully reviewed and analyzed the instant application to determine whether the claims define a useful, novel, non-obvious, and enabled invention that has been clearly described in the specification. However, the Examiner should clearly articulate any rejection early in the prosecution process so Applicants have the opportunity to provide evidence of patentability and otherwise respond completely at the earliest opportunity. M.P.E.P. § 706. The Examiner may not reserve rejections for future actions. “The examiner’s action will be complete as to all matters.” 37 C.F.R. § 1.104(b). “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable *will* be rejected.” 37 C.F.R. § 1.104(c)(1)(emphasis added). As this purported “provisional” rejection is asserted under no authority and fails to clearly articulate any rejection, Applicants respectfully submit that this “provisional” rejection has no effect on the instant application.

b) Rejection under 35 U.S.C. § 103 is Improper

Additionally, this statement fails to provide reasons for a rejection and is clearly so uninformative that it prevents the applicant from recognizing and seeking to counter any potential grounds for rejection. Applicants cannot determine to what claims this statement is applicable. The Examiner has failed to cite to the best references and avoid

merely cumulative references. The references cited include at least some that cannot be relied upon as prior art against the pending claims. The Examiner has failed to explain the pertinence of each reference and to specify each rejected claim. The Office Action includes an explanation of the Examiner's understanding of the level of skill in the art in terms of some of the cited references. However, this explanation fails to include the elements of a proper rejection under 35 U.S.C. § 103(a).

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected." This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*." (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, "In every letter, each pending claim should be mentioned by number, and its treatment or status given." Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

I. Response to Examiner's Administrative Requirement

Applicants respectfully traverse the requirements imposed by the Examiner in the Office Action at page 169.

The Examiner requires Applicants to either:

- (1) file terminal disclaimers in each of the related 329 applications terminally disclaiming each of the other 329 applications; or
- (2) provide an affidavit attesting to the fact that all claims in the 329 applications have been reviewed by applicant and that no conflicting claims exist between the applications; or
- (3) resolve all conflicts between claims in the related 329 applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the above identified 329 applications.

In addition, Examiner states that failure to comply with any one of these requirements will result in abandonment of the application.

Applicants traverse this requirement for the reasons stated in Section II C of the Amendment and Request for Reconsideration filed September 18, 1998 in application number 08/470,571. Further, Applicants have fully responded to the re-imposition of this requirement in the Petition To The Commissioner Under 37 C.F.R. § 1.181 filed March 7, 2000, which requests, *inter alia*, that this improper requirement be withdrawn.

J. Response to Obviousness-Type Double Patenting Rejection

Applicants respectfully request that the Examiner reconsider and withdraw his rejection based on obviousness-type double patenting on two separate grounds.

1. The Examiner has totally confused and misapplied the established law of double patenting and, further, has failed to follow the mandates of the Manual of Patent Examining Procedure as to double patenting rejections.

2. The Examiner has also failed to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents.

1. PTO Assertions in Office Action mailed January 7, 2000

The Examiner has rejected claims 1-399 of the application under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 4,684,490 (Harvey I); claims 1-5 of U.S. Patent No. 4,704,725 (Harvey II); claims 1-25 of U.S. Patent No. 4,965,825 (Harvey III); claims 1-26 of U.S. Patent No. 5,109,414 (Harvey IV); claims 1-71 of U.S. Patent No. 5,233,654 (Harvey V); and claims 1-56 of U.S. Patent No. 5,335,277 (Harvey VI), in view of at least one or more of a list of over 30 prior art references from pages 170-179.

In the Office Action at page 180, the Examiner rejects 1-399 under obviousness-type double patenting as being unpatentable over any single claim or combination of claims are “no more than an obvious variation of the patented claims when the teachings discussed throughout this action are considered.” (Office Action at 180.) The Examiner attempts to assert a catch-all rejection by incorporating all arguments and allegations discussed throughout the pages of the Office Action. Again, the Examiner provides no authority for this sweeping new ground for rejecting claims under obviousness-type double patenting.

The Examiner’s application of obviousness-type double patenting standard represents an erroneous and misapplied interpretation of existing case law and is contrary to patent examining procedure. First, the Examiner has confused and misapplied the established law of double patenting and has failed to follow the mandates of the M.P.E.P. as to double patenting rejections. Secondly, the Examiner has also failed to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claimed and those issued in the Harvey patents as required by the M.P.E.P.

Based on the following discussion, Applicants respectfully request the withdrawal of these rejections.

2. The Scope of the Double Patenting Doctrine

The prohibition against double patenting is a judicial doctrine based on the language of 35 U.S.C. § 101, which specifies that an inventor who invents “any new and useful process, machine, manufacture, or composition of matter...may obtain a patent therefor.” In *Miller*¹, the U.S. Supreme Court held the term “a patent” to mean, “two valid patents for the same invention cannot be granted either to the same or to a different party.”² Therefore, the claims in a second patent must be patentably distinct from the claims in a first patent or the second patent would be an improper extension of the first.

As the preclusion is to obtaining two patents on the same invention or an obvious modification of the same invention, the sole question is whether by examining the scope of the claims, one has attempted to claim the same subject matter twice, or an obvious variation. No prohibition exists against a second patent on subject matter that is disclosed but not claimed in the first patent.

Under 35 U.S.C. § 120, a patent applicant may submit additional claims in a subsequent application which are supported by the disclosure in the original applications’ specification. A proper continuation application and its original application are considered “parts of the same transaction, and both as constituting one continuous application, within the meaning of the law.”³ Furthermore, 35 U.S.C. § 120 does not place a definite time limit on filing a continuing application. Rather, all that is required to preserve an earlier effective filing date as to common subject matter is copendency or a continuous chain of copendency.

The double patenting doctrine prevents an extension of a patent term which would occur if successive patents were allowed on the same invention or obvious variants.

¹ *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894).

² *Id.* at 197.

³ *In re Hogan*, 449 F.2d 595, 603 (CCPA 1977)(quoting *Godfrey v. Earnes*, 68 U.S. 317, 325-6 (1864)).

However, if two patents contain the same disclosure, but claim different inventions or nonobvious variations, double patenting does not exist.

3. Patent Office Procedure

The U.S. Patent and Trademark Office (“PTO”) has specified a procedure in the Manual of Patent Examining Procedure (M.P.E.P.) for Examiners to follow in establishing a *prime facie* case of double patenting. In determining whether a proper basis exists for a double patenting rejection, the Examiner must determine whether:

1. A double patenting rejection is prohibited by the third sentence of 35 U.S.C. § 121 related to divisional applications,
2. A statutory basis exists (i.e., whether same-invention double patenting is present), or
3. A non-statutory basis exists (i.e., whether obviousness-type double patenting is present).⁴

Assuming the application is not a divisional application, the Examiner must establish in step 2 that the same invention is being claimed twice. The Court specified in *In re Vogel*, 422 F.2d 438, 164 U.S.P.Q. 619 (C.C.P.A. 1970), that in determining same-invention double patenting analysis, one must ask “is the same invention being claimed twice?...[The] “invention” here means what is defined by the claims, whether new or old, obvious or unobvious....By the “same invention” we mean identical subject matter.”⁵ The court stated “that claims may be differently worded and still define the same invention.”⁶ In conclusion, the court found “the only objective test” for same-invention double patenting as,

⁴ M.P.E.P. § 804.

⁵ *In re Vogel*, 422 F.2d at 441.

⁶ *Id.*

whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define identically the same invention.⁷

If there is no same-invention double patenting, then the Examiner must establish in step 3 obviousness-type double patenting wherein the grant of a patent with the claims in the application would unjustly extend the rights granted by the first patent.

4. Nonstatutory Double Patenting

In defining nonstatutory double patenting, the M.P.E.P. provides three types of nonstatutory-type double patenting based on the judicial doctrine, which include one-way obviousness, two-way obviousness⁸, and nonobviousness rejections.⁹

Under the M.P.E.P. requirements, if the application at issue is the later filed application, only a one-way determination of obviousness is needed to resolve the issue of double patenting. The issue to be determined is whether the invention defined in a claim in the application is an obvious variation of the invention defined in a claim of the patent. *See, e.g., In re Berg*, 46 U.S.P.Q.2d 1226 (Fed. Cir. 1998). The M.P.E.P. mandates that unless a claimed invention in the application is obvious over a claimed invention in the patent, an Examiner should make no double patenting rejection of the obviousness-type. Thus, the sole issue is the scope of the inventions as defined by the claim language in the patent and later filed application.

⁷ *Id.*

⁸ A two-way obviousness double patenting rejection arises in the specific instance where the claims of a patent application are being compared with the claims of a later filed but earlier issued patent. This is not the case with respect to the present double patenting rejection.

⁹ M.P.E.P. § 804. Nonobviousness-type double patenting rejections arise in circumstances as described in *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). With respect to the instant application, a nonobviousness-type double patenting rejection was made on February 6, 1997, and withdrawn in the Office Action mailed on March 31, 1998.

a) **Standard for Determining One-Way Obviousness-Type
Double Patenting**

*In re Kaplan*¹⁰, the Federal Circuit specified that an obviousness-type double patenting rejection rests on the prohibition against issuance of a second patent that would continue protection, beyond the expiration date of the first patent, or a mere variation of the previous patented invention that would have been obvious to those of ordinary skill in the relevant art.

Thus, in establishing a *prima facie* case of obviousness-type double patenting, the Examiner must,

1. Identify the inventions claimed in the claims under consideration and in the patent claims,
2. Establish that any variation(s) between the inventions claimed in the claims under consideration and the earlier-issued patent claims would have been obvious to person of ordinary skill in the art, and
3. Establish a *prima facie* case of obviousness.¹¹

To summarize, the Examiner must show that (1) the inventions claimed (2) are not patentably distinct based on (3) a *prima facie* showing of obviousness. Instead, the Examiner has provided bald statements that obvious variations exist. The mere finding that the claims themselves are obvious variations, without establishing that the alleged variations would have been obvious, cannot properly support an obviousness-type double patenting rejection.

In the Office Action under paragraphs 22-23, the Examiner has failed to establish a *prima facie* showing of obviousness-type double patenting in the rejection of 1-399. In particular, the Examiner has not identified the scope of the inventions of the instant

¹⁰ *In re Kaplan*, 789 F.2d 1574, 229 USPQ 678 (Fed. Cir. 1986).

¹¹ See *In re Longi*, 759 F.2d 887, 225 USPQ 645, 651 (Fed. Cir. 1985) (Examiner must provide *prima facie* case of obviousness for obviousness-type double patenting rejection. The burden then shifts to the Applicant to rebut the *prima facie* case).

application and the patents as determined by the claims. Secondly, the Examiner has not positively identified any variations in the claims of the instant application and the claims of the patent. Examiner has provided broad allegations that obvious variants exist, but fail to specifically state these allegedly obvious variants. Thirdly, the Examiner has not shown a *prima facie* case of obviousness under the requirements of 35 U.S.C. § 103. The Examiner has not indicated proper motivation in making the alleged obvious modifications. Since no motivation is provided, it may follow that the variations are not obvious. Moreover, monopolies would not be extended on the same claimed invention.

(1) Identifying the Inventions Claimed

(a) Scope of the Inventions as Defined by the Claim Language

The C.C.P.A. in *In re Vogel*¹² summarized this step by asking, “does any claim in the application define merely an obvious variation of an invention disclosed and claimed in the patent?”¹³ The analysis is based on what the claim defines, and not merely the claim language itself. This first step in the analysis should not focus on what the claim language *discloses*, but on rather what the claim language *defines*.¹⁴ As noted by the Federal Circuit,

it is important to bear in mind that comparison can be made only with what invention is *claimed* in the earlier patent, paying careful attention to the rules of claim interpretation to determine what invention a claim *defines* and not looking to the claim for anything that happens to be mentioned in it *as though it were a prior art reference*.¹⁵

...

¹² *In re Vogel*, 422 F.2d 438, 164 USPQ 619.

¹³ *Id.*, 164 USPQ at 622.

¹⁴ *General Foods Corp. v. Studiengesellschaft Kohle mbh*, 972 F.2d 1272, 23 USPQ 1893, 1845 (Fed. Cir. 1992).

¹⁵ *Id.*, 972 F.2d at 1280.

[T]he fundamental rule of claim construction, that what is claimed is what is *defined by the claim taken as a whole*, every claim limitation...being material¹⁶

...

[P]atent claims are looked to only see what *has been patented*, the subject matter which *has been protected*, not for something one may find to be disclosed by reading them¹⁷

Rather than identifying the scope of the inventions as defined by the claims, the Examiner has assumed an obviousness-type double rejection based on two claims in separate applications supported by the same embodiment of the applications' common specification, as set forth in paragraph 23. The basis for the Examiner's obviousness-type double patenting rejection is premised on a common embodiment. There is no statutory basis for this improper interpretation of obviousness-type double patenting.

The Examiner's "same embodiment" basis for obviousness-type double patenting is erroneous for at least the following reasons. First, two claims in two separate applications may find support in the same embodiment while claiming inventions that are patently distinct. An embodiment as described by a common specification and drawings may fully disclose a wide range of details and limitations. However, it may not follow that separate claims, which are supported by a common embodiment, are also identical in scope, as assumed by the Examiner. Second, by relying on a common embodiment, the Examiner has improperly treated the specification as prior art. Finding a claimed invention to be an obvious variation of patented claims by treating the patent disclosure

¹⁶ *Id.*

¹⁷ *Id.* citing *In re Aldrich*, 398 F.2d 855, 859, 158 USPQ 311, 314 (CCPA 1968).

as though it is prior art has been repeatedly held as impermissible.¹⁸ The use of an applicant's invention disclosure as prior art against him is improper.¹⁹ By broadly rejecting pending claims under obviousness-type double patenting without analyzing the claims of the inventions, the Examiner has misapplied and confused the law of obviousness-type double patenting.

(b) Proper Use of Specification

Because the obviousness-type double patenting rejection requires claim interpretation, the Examiner may use the specification in a limited capacity to assist in interpreting what the claim language defines. The patent disclosure cannot be used as prior art, but the disclosure can be used to (1) determine the meaning of terms in a claim and may also be used as required to (2) answer the above question, "whether the claim in the application defines merely an obvious variation of the invention disclosed and claimed in the patent."²⁰ With respect to "the invention disclosed and claimed in the patent," the Federal Circuit stated in *Vogel*,

We recognize that it is difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim. A claim is a group of words defining only the boundary of the patent monopoly....The disclosure, however, sets forth at least one tangible embodiment within the claim, and it is less difficult and more meaningful to judge whether that thing has been modified in an obvious manner. It must be noted that this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. § 103, since only the disclosure of the invention claimed in the patent may be examined.²¹

¹⁸ *In re Kaplan*, 229 USPQ at 683.

¹⁹ *Id.*

²⁰ *In re Vogel*, 422 F.2d at 441.

²¹ *Id.*, 422 F.2d at 442.

Therefore, it is proper to identify the invention claimed in the patent by using *exclusively only the portion(s) of the disclosure supporting the claimed invention.*

Alternately, it is improper to make a double patenting rejection when the rejection relies on specification support other than the specific portion(s) of the disclosure supporting the claimed invention.

It has been repeatedly held that use of disclosure of a patent cited in support of a double patenting rejection cannot be used as through it were prior art, even where the disclosure is found in the claims. *See, e.g., Braat*, 937 F.2d at 594 n.5, 19 U.S.P.Q. at 1293 n.5 (“The patent disclosure must not be used as prior art”); *Vogel*, 422 F.2d at 442, 164 USPQ at 622 (in considering obviousness-type double patenting, “the patent disclosure may not be used as prior art”); *In re Plank*, 399 F.2d 241, 242, 158 U.S.P.Q. 328, 329 (C.C.P.A. 1968) (“Its claims are used as the basis for a double patenting rejection. It is not a prior art reference”); *In re Aldrich*, 398 F.2d 855, 859, 158 U.S.P.Q. 311, 314 (C.C.P.A. 1968) (“[P]atent claims are looked to only to see what has been patented, the subject matter which has been protected, not for something one may find to be disclosed by reading them.”)

In the instant case, the Examiner has improperly relied on the specification in making the obviousness-type double patenting rejection. Whether support is provided for the claim language is an issue separate from the scope of the claims in the determination of a double patenting rejection. The Examiner has confused the issue of claim support with the issue of claim interpretation in determining whether obviousness-type double patenting exists. Claim interpretation is limited to what the claim language defines as the

scope of the invention. By doing so, the Examiner has relied on specification support other than the specific portions of the disclosure supporting the claimed invention. Applicants have failed to follow the mandates as expressed in the M.P.E.P. thereby failing to establish a *prima facie* case of double patenting of the obviousness-type.

According to *In re Vogel*, one must first “determine how much of the patent disclosure pertains to the invention claimed in the patent” because only “[t]his portion of the specification supports the patent claims and may be considered.” The Examiner has disregarded this critical step in his analysis of the obviousness-type double patenting rejection.

(c) Best Mode

The scope of the invention is determined by the claim language. The best mode disclosed in the specification as interpreted by the Examiner does not define the boundaries of the claims when determining double patenting of the obviousness-type. Examiner has again improperly relied on the specification to interpret the scope of the invention while failing to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents.

In *In re Schneller*, 397 F.2d 350, 158 U.S.P.Q. 210 (C.C.P.A. 1968), the Schneller patent disclosed elements A, B, C, X, and Y as the best mode and claimed A, B, C, and X which covered other features incorporated in the claim because of the term “comprising”, thus effectively covering the combination A, B, C, X, and Y. The later filed application claimed elements A, B, C, and Y and elements A, B, C, X, and Y. Thus, making the new combination would merely exercise skill or ingenuity expected of a person with ordinary skill in the art because X and Y were both known in the art.

The court in *In re Schneller* noted the uniqueness of the factual circumstances surrounding the element composition of the application which involved the substitution of element X for element Y, rather than the addition or subtraction of an element from the patent's claims.²² The court went on to state that "[this] is not a case of an improvement or modification invented after filing . . . Hence it is not the usual 'obviousness-type' double patenting case."²³ Thus, the court limited the applicability of this holding. The Examiner has not offered any proof that *Schneller*'s use of the disclosed best mode may be properly applied to the facts of the instant application. More specifically, the instant case does not involve the substitution of one element (X) for another element (Y) where the rest of the claimed subject matter (ABC) is well known and where the two elements (X and Y) are also known in the art.

While *In re Schneller* relied on a disclosed best mode of ABCXY in finding a non-statutory double patenting rejection, the Examiner's use of a best mode to find all variations obvious is unwarranted. An allegation of an improper extension of a unified system monopoly cannot be supported without examining the scope of the claims. In *In re Schneller*, the court specifically cited and analyzed both the claims in the patent and the elements in the claims in the *Schneller* application. The court then clearly demonstrated how the claims in the patent read on the claims in the application to support the double patenting rejection. The Office Action fails to provide such an analysis.

(d) Means Plus Function

In interpreting "means plus function" language, the Federal Circuit held *In re Lonardo*, 119 F.3d 960, 43 U.S.P.Q.2d 1262 (Fed. Cir. 1997) that under 35 U.S.C. § 112, sixth paragraph²⁴, correct interpretation of the means plus function element must be in

²² 397 F.2d at 353-54.

²³ *Id.*

²⁴ See *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1849 (Fed. Cir. 1994).

light of the disclosed structure for implementing the function, and in a manner that is expressly recited in the claim.²⁵ The PTO must apply 35 U.S.C. §112, sixth paragraph, in appropriate cases, and give claims their broadest reasonable interpretation in light of and consistent with the written description of the invention in the application.²⁶

**(2) Establishing Variations between the Invention Claimed
and the Invention Defined in the Patent Claims**

Based on the proper identification of each of the inventions, *supra*, the Examiner then must identify the variation(s) between the inventions being claimed in the application and the invention as defined by the claims in the patent.

As discussed above, the Examiner has not properly identified the inventions. In fact, the Examiner has failed to analyze and interpret the claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents. Rather, in an attempt to address the variations between the inventions, the Examiner provides broad allegations that “no pending claim is more than an obvious variation...” (Office Action at 180.) However, the Examiner has failed to specifically identify these variations. Such blanket assertions do not fulfill the requirement of identifying variations between the invention claimed and the invention defined by the patent claims, as mandated by the M.P.E.P.

As to paragraph 23, the Examiner presents a weak attempt at establishing variations between the invention claimed and the invention defined in the patent claims. More specifically, the Examiner states that “[t]he differences are suggested ... by the art above.” (Office Action at 180.) The Examiner erroneously believes that incorporating any differences merely **suggested** (and not necessarily explicitly stated) by any and all prior art discussed throughout entire Office Action is proper. The Examiner is required to

²⁵ *In re Lonardo*, 43 USPQ2d at 1267.

²⁶ *In re Donaldson*, 16 F.3d at 1194.

identify the variations between the inventions being claimed and the invention as defined by the patent claims. Placing the burden on Applicants to sift through the Office Action to locate any and all discussions of the differences suggested, explicitly and/or implicitly, by the prior art is contrary to law. There is no statutory basis for Examiner's version of identifying variations between the sets of claims at issue.

Applicants provide Appendix B herewith, which identify Applicants' patentable subject matter of the instant claims over specific Applicants' patented claims in response to Appendix A of the Office Action.

(3) Variations Would Have Been Obvious to a Person of Ordinary Skill in the Art

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) that establish a background for determining obviousness under 35 U.S.C. § 103 are employed when making an obviousness-type double patenting analysis. However, the "patent principally underlying the double patenting rejection is not considered prior art."²⁷ The factual inquiries are summarized as follows:

- (A) Determine the scope and content of the patent claim and the prior art relative to the claim in the application at issue;
- (B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;
- (C) Determine the level of ordinary skill in the pertinent art; and
- (D) Evaluate any objective indicia of nonobviousness.²⁸

Additionally, the Federal Circuit held in *Kaplan* that obviousness-type double patenting rejections must include clear evidence to establish why an alleged variation of an invention claimed in a prior patent would have been obvious.

²⁷ *In re Longi*, 759 F.2d at 892, n.4 (citing *In re Braithwaite*, 379 F.2d 594, 600 n.4, 54 CCPA 1589, 154 USPQ 29 (CCPA 1967)).

²⁸ M.P.E.P. § 804 (II) B (1).

[T]here must be some clear evidence to establish why the variation would have been obvious which can properly qualify as “prior art.” Even if obviousness of the variation is predicated on the level of skill in the art, prior art evidence is needed to show what the level of skill was.²⁹

Otherwise, if no clear prior art evidence establishes that the variation(s) in the application claims are obvious over the invention defined by the claims of the patent, one can assume that the characteristic of the claims including the variation(s),

appear that the invention covered by the later patent was a separate invention, distinctly different and independent from that covered by the first patent; in other words, it must be something substantially different from that comprehended in the first patent. It must consist in something more than a mere distinction of the breadth or scope of the claims of each patent.³⁰

As discussed above, the Examiner has failed to properly identify the inventions as claimed and has further failed to identify the variations as required for a proper obviousness-type double patenting rejection. Nonstatutory double patenting is intended to prevent prolongation of the patent term by prohibiting the extension of patent monopolies in successive patents. While the prohibition of extending patent monopolies is a policy concern, a statement of motivation for establishing obviousness under 35 U.S.C. § 103 is nevertheless lacking. Because Examiner has not provided any evidence that establishes that the variations are obvious over the invention as defined by the claims, the claims of the instant application may be assumed to be a separate and distinct invention.

Under paragraph 30, in an attempt to address the obviousness of the variations, the Examiner states that “[t]he provision of any such differences would have been obvious for the benefit of providing greater functionality to the user” (Office Action at

²⁹ *Id.* at 683.

³⁰ *Miller v. Eagle Mfg. Co.*, 151 U.S. at 198.

144.) The Examiner provides a single statement of motivation to address any differences without positively identifying the differences.

This statement lacks the proper motivation for establishing obviousness under 35 U.S.C. § 103 for at least the following reasons. First, “for the benefit of providing greater functionality to the user” does not answer the question of whether the differences would have been obvious to one of ordinary skill in the art. This attempt at providing motivation fails to take into consideration the level of ordinary skill at the time of the invention. To determine whether greater functionality provides adequate motivation, the Examiner should take into consideration (among other things) the level of ordinary skill in the art, as expressly provided in M.P.E.P § 804 (II)B(1) and *Graham v. John Deere Co.*³¹ A proper motivation statement takes into consideration what would have been obvious to someone with ordinary skill in the art at the time of the invention. Without this determination, a modification cannot be deemed obvious for “greater functionality”. Examiner attempts to provide the level of ordinary skill in the art on pages 123-128. However, the Examiner nevertheless fails to provide a teaching as to how the differences would have been obvious. A variation may not be assumed to be obvious merely because greater functionality is alleged to be provided. The Examiner has failed to provide a proper statement of motivation.

Second, Examiner’s statement of motivation is overly broad. The statement of “greater functionality to the user” does not adequately provide a teaching to one of ordinary skill in the art. According to the Examiner’s reasoning, any and all differences between sets of claims, whether novel or not, will be considered obvious due to “greater functionality”. The Examiner’s version of motivation is improper and erroneous.

Third, while a variation provides “greater functionality”, it may also be considered novel and non-obvious. For example, while an improvement on a widget

³¹ 383 U.S.1, 148 USPQ 459 (1966).

provides "greater functionality", the improvement may just as well be novel and therefore merit patent protection. Non-obvious improvements provide "greater functionality" to the user. Likewise, a mere change in color may also provide greater functionality to the user. However, based on the level of ordinary skill in the art at the time of the invention, a mere color change may be considered to be an obvious variation. Because Examiner's version of motivation may be construed in two dynamically different ways, the motivation statement of providing "greater functionality to the user", as applied to "any such differences" is clearly deficient.

5. Conclusion

The Examiner's basis for the double patenting rejections is inconsistent with the Patent Office Procedures found in the M.P.E.P. The Examiner has fatally misapplied and confused the established law of double patenting. The belief that if two claims in separate applications are supported by the same embodiment in the application's common specification as being a *prima facie* basis for obviousness-type double patenting rejections is not supported by the rules and procedures as set forth in the M.P.E.P. Furthermore, the Examiner has not cited any case law or any other authority, for that matter, for this erroneous basis.

To establish a proper obviousness-type double patenting rejection, the PTO must show that (1) the inventions claimed (2) are not patentably distinct and (3) are based on a *prima facie* showing of obviousness. According to § 804 of the M.P.E.P., any obviousness-type double patenting rejection should make clear the differences between the inventions defined by the conflicting claims; and the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent. As discussed above,

the Examiner has not identified the claimed inventions; established variations; or shown that variations would have been obvious to a person of ordinary skill in the art.

Therefore, the Examiner has failed to properly establish a *prima facie* basis for a double patenting rejection of the obviousness type. Applicants respectfully request withdrawal of the rejection of all pending claims.

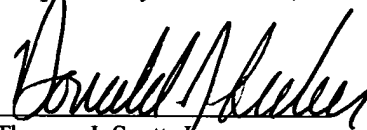
III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for allowance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

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APPENDIX A

SPECIFICATION SUPPORT

TO

PARENT 1981 APPLICATION

AND

INSTANT APPLICATION

Claim Language	Support to parent application filed November 3, 1981.	
	Reference	Language
Support to instant specification.		Language
Reference		Language

1. A method of distributing data units,	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
said data units comprising	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68,

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
an information portion and an identification portion,	Column 18 lines 52-55.	The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 59 lines 29-33	69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ...

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
said identification portion identifying at least one characteristic of said data units, said method comprising the steps of:		Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.
		Column 11 lines 32-39.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75. By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
receiving a plurality of said data units on a multiple channel data stream,	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	<p>Page 420 lines 21-29.</p>	<p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p>
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
at least some of said data units being received sequentially; and performing the following steps for each of said received data	Column 18 lines 58-59.	Signal processor, 200, scans sequentially all channels.	Page 422 lines 23-25.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
units:				
(a) storing the received data units in a data buffer;	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 420 lines 6-20.	<p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information of the particular identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed</p>
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 422 lines 33 to Page 423 line 4.	
			Page 329 line 2-20.	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

				fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
(b) decoding the identification portion of the data units to identify the at least one characteristic of the data units;	Column 6 lines 57-61.	[The standard line receiver, 33] receives and detects only that portion or portions of the overall video transmission and passes this line portion or portions to a digital detector, 34, which acts to decode the encoded signal information in the line portion or portions.	Page 35 lines 7-16.	Said line receiver, 33, receives the information of one or more of the lines normally used to define a television picture. It receives the information only of that portion or portions of the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which is considered in greater detail below.
	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
		75, and recorder/ players, 76 and 78.	<p>media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
determining the position of the data units in an order of distribution of the received data units based on said step of comparing the identification portion.	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch,	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.
Reference	Reference	Reference
Language	Language	Language
	75, and recorder/ players, 76 and 78.	<p>media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p>
		<p>For example, page 332 lines 23-31.</p>
		<p>For example, page 333 lines 15-21.</p>

Claim Language	Support to parent application filed November 3, 1981	Support to instant specification
	Reference	Reference
	Language	Language
		<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
<p>3. The method of claim 1 wherein said step of determining comprises the steps of:</p> <ul style="list-style-type: none"> comparing the identification portion of the data units to stored schedule information designating when each of said data units is to be distributed; and 	<p>Column 11 lines 38-41.</p> <p>By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...</p>	<p>For example, page 334 lines 1-6.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>

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determining when the data units should be distributed based on said schedule information.	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 326 lines 28-30. Page 328 lines 11-13.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. ... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
4. The method of claim 1 wherein said step of transmitting comprises the steps of: changing said transmission order of the received data units based on said step of determining;	Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25. Page 334 lines 1-6.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
outputting the data units to output ports in said changed transmission order	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30. Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the

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to distribute the data units in an order different from the order in which they were received.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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5. A method for routing and distributing data units,	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS
each of said data units having an identification portion and an information content portion,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	

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<p>said method using a switch with multiple data ports,</p> <p>a plurality of storage locations for storing and communicating each of said data units to a specific destination address and</p> <p>a controller for controlling said switch and said plurality of storage locations, said method comprising the steps of:</p>	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 59 lines 29-33	apparatus of said intermediate transmission station;....	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, ...
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the	

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receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.		programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
processing said data units by decoding said identification portion of each of said data units to identify priority of said information content portion of said data units;	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
			Page 326 lines 16-18.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network,	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message

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		98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 9 lines 53-55.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ... Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30,

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				<p>controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
routing each of said data units to a data port on said switch;	Column 10 lines 40-47.	<p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>	<p>Page 324 line 31 to page 325 line 4.</p>	<p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>
selecting a storage location to store each of said data units; and	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
communicating each of said data units to said selected storage location to prioritize the transmission of each of	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from

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said data units.				television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
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6. The method of claim 5 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through said switch to each said specific destination address over apredetermined time span.	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 17 lines 4-9	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...

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			At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16.
7. The method of claim 6 further comprising: generating a bill from said total number of said data units by comparing said total number of said data units with a predetermined billing rate.	Column 3 line 66 to column 4 line 2.	The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.		Page 13 lines 1-9. Page 28 lines 29-35.	It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote		Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to

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	Column 20 lines 54-58.	sites via telephone or other data transfer networks, 97 and 99 respectively. when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	remote sites via telephone or other data transfer networks, 97 and 99, respectively. [Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
		first, ordered	Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14,

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			and, second, delivered.	Page 471 lines 14-16.	of signal processor, 200, which record contains particular program unit information and TV567# information.
				Page 473 line 29 to Page 474 line 1.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...
					Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
8. The method of claim 5 further comprising: determining from said decoded identification portion of said data units whether said data units should be distributed to multiple data ports on said switch.	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...		Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
9. The method of claim 5 further comprising: comparing said decoded identification portion of said data units with a predetermined schedule to determine a re-transmission time for	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,

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said data units and determining a data port on said switch for re-transmission.				and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27. Page 49 lines 26-27.	
10. The method of claim 5 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through each of said multiple data ports over said predetermined time span.	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31. Page 337 lines 1-12.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6. Fig. 6 shows particular signal processor system monitoring apparatus associated with

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		programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.		the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 17 lines 4-9	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...
		At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.

11. The method of claim 10 further comprising: generating a bill from	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information
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said total number of data units by comparing said total number of data units with a predetermined billing rate.	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6. Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor

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			<p>information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p> <p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>
		Page 471 lines 26-31.	
		Page 473 lines 3-8.	
	first, ordered	Page 472 lines 23-27 with	
		Page 471 lines 14-16.	
	and, second, delivered.	Page 473 line 29 to Page 474 line 1.	

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12. A method for routing and distributing data units,		Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
		Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
each of said data units having an identification portion and an information content portion,		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,....
said method using a		Column 10 lines 41-42.	... connect, by means of conventional	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 324 line 34.	... a conventional matrix switch, 75, well

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switch with multiple data ports, a plurality of storage locations for storing and communicating said data units and a controller for controlling said switch and said storage location, said method comprising the steps of:	Column 10 lines 42-43. Column 11 lines 57-64.	switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ... Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 324 line 35. Page 329 line 2-20.	known in the art, one or more recorder/players, 76 and 78, ... Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by a switch;	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.

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processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.	Page 325 line 34 to page 326 line 11.	
				Page 326 lines 16-18.	
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each	Page 327 line 35 to page 328 line 13.

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	<p>Column 9 lines 53-55.</p>	<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined</p>
		<p>Page 84 lines 26-28.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
		<p>Page 28 lines 26-27.</p>	<p>... monitor information that identifies what programming is available, ...</p>
		<p>Page 49 lines 26-27.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p>	<p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
		<p>Page 265 line 27 to Page 266 line 21.</p>	<p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined</p>

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comparing said identification portion of said data units to predetermined timing data to determine a transmission time based on said identification portion of said data units; and	Column 11 lines 38-41.			fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.
		By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.

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transmitting said data units based on said comparing step.	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 326 lines 28-30.	

13. The method of claim 12 further comprising:	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select
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<p>accumulating information about said identification portion of said data units to calculate the total number of data units transmitted passing through said switch over a predetermined time span.</p>	<p>Column 12 lines 45-50.</p>	<p>signals the programming contains.</p> <p>Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.</p>	<p>Page 337 lines 1-12.</p>	<p>and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.</p>	<p>Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.</p>
	<p>Column 17 lines 4-9</p>	<p>Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.</p>	<p>Page 32 lines 9-12.</p>	<p>To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...</p>	
		<p>At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.</p>	<p>Page 179 lines 14-24.</p>	<p>Automatically, said process-monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information</p>	

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				to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.
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14. The method of claim 13 further comprising: generating a bill from said total number of data units by comparing said total number of data units with a predetermined billing rate.	Column 3 line 66 to column 4 line 2.	The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.	Page 13 lines 1-9.	It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.
			Page 28 lines 29-35.	It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.
	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records

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		<p>that site can determine for billing purposes that the recipe was,</p> <p>first, ordered</p> <p>and, second, delivered.</p>	<p>Page 44 lines 26-30.</p> <p>Page 471 lines 26-31.</p> <p>Page 473 lines 3-8.</p> <p>Page 472 lines 23-27 with</p> <p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to</p>	<p>that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p> <p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the</p>

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			Page 474 line 1.	controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
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15. The method of claim 12 further comprising: determining from said decoded identification portion of said data units whether said data units should be distributed to multiple data ports on said switch.	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
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16. The method of claim 12 further comprising: comparing said decoded identification portion of said data units with a predetermined schedule to determine a re-transmission time for said data units and determining a data port on said switch for re-transmission.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what
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				channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	

17. A method for routing and distributing data units,	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	
each of said data units having an identification portion and an information content	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted

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portion,				into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,...
said method using a switch with multiple data ports,	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
a plurality of storage locations for storing and communicating data units and	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, ...
a controller for controlling said switch and said plurality of storage locations, said method comprising the steps of:	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
			Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining

Claim Language	Reference	Language	Reference	Support to instant specification.
receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
		Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.	Page 326 lines 16-18.	

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	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 9 lines 53-55.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ... Controller, 20, has capacity for keeping

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comparing said decoded identification portion of each of said data units to predetermined priority data to determine a transmission priority;	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	<p>track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
			Page 265 line 27 to Page 266 line 21.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6</p>

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		<p>should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p> <p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that</p>
<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 325 line 34 to page 326 line 10.</p> <p>Page 248 line 17 to page 249 line 5.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, ...</p> <p>The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard</p>	

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		broadcast and cablecast practices known to exist on that transmission line or frequency.		<p>apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
communicating an instruct-to-delay signal to cause a delay in communication of said data units.	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	<p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73,</p>

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		Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. ... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
18. The method of claim 17 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through said switch to each of a plurality of specific destination addresses over a predetermined time span.	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.	
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field	

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	<p>signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.</p> <p>Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.</p> <p>At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.</p>	<p>distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.</p> <p>To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...</p> <p>Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.</p>	<p>Page 32 lines 9-12.</p> <p>Page 179 lines 14-24.</p>
19. The method of claim 18 further comprising: generating a bill from said total number of	<p>Column 17 lines 4-9</p> <p>Column 3 line 66 to column 4 line 2.</p>	<p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is</p>	<p>Page 13 lines 1-9.</p>

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data units by comparing said total number of data units with a predetermined billing rate.			example, the billing of individual customers.		received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.
	Column 12 lines 54-56.		Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 28 lines 29-35.	It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	Column 20 lines 54-58.		when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 337 lines 19-21. Page 28 lines 25-35.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively. [Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
			that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to

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			<p>assemble, record, and transmit meter records to remote billing stations ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p> <p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>	
		first, ordered	<p>Page 471 lines 26-31.</p> <p>Page 473 lines 3-8.</p> <p>Page 472 lines 23-27 with</p> <p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to Page 474 line 1.</p>	
		and, second, delivered.		

20. The method of claim 17 further	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more
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<p>comprising: determining from said decoded identification portion of said data units whether said data units should be distributed to multiple data ports on said switch.</p>			video recorder/players, 76 and 78, ...		recorder/players, 76 and 78,
<p>21. The method of claim 17 further comprising: comparing said identification portion of said data units with a predetermined schedule to determine a re-transmission time for said data units and determining a data port on said switch for re-transmission.</p>		Column 11 lines 38-43.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>

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				information and/or monitor information.
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22. The method of claim 17 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through each of said multiple data parts over a predetermined time span.	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 17 lines 4-9	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...
		At a time when buffer/comparator, 14,	Page 179 lines 14-24.	Automatically, said process- monitor-info

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	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
		first, ordered	Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information

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		and, second, delivered.	<p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to Page 474 line 1.</p>	<p>and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>
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24. A method for routing and distributing data units,	<p>Column 10 lines 15-23.</p> <p>Column 12 lines 58-61.</p>	<p>The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.</p> <p>The facility could also process and transmit radio programming and other electronic data according to the methods described here ...</p>	<p>Page 324 lines 8-24.</p> <p>Page 339 lines 11-23.</p>	<p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...</p> <p>... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>
said data units having a first identification portion and a second	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from	Page 325 line 34 to page 326 line 7.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier,</p>

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multimedia information portion,	Column 3 lines 56-60.	<p>their associated programming and ...</p> <p>Multimedia presentations may be coordinated in time and/or in place as, for example, when real-time video programming is co-ordinated with presentations from a microcomputer working with data supplied earlier.</p>	<p>Page 59 lines 29-33</p> <p>Page 12 lines 3-9.</p> <p>Page 2 lines 8-19.</p>	<p>63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addressed to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information.</p> <p>Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are</p>

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using a switch with multiple data ports, a data buffer and a controller for controlling said switch comprising the steps of:	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 28 lines 2-3.	called "combined" media.)	This television based combined medium is but one example of many combined media.
	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 34.		... a conventional matrix switch, 75, well known in the art, ...
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 324 line 35.		... one or more recorder/players, 76 and 78,...
				Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
receiving said data units from a multiple channel data stream, said multiple channel data stream having said data units separated in the	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and	

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time domain so that said data units are sequentially received on a data port on said switch;	Column 11 lines 32-37.	by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions. By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
processing said data units by decoding said first portion of said data units to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said data units;	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72. Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming	Computer, 73, monitors incoming programming by means of the aforementioned

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		<p>schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>		<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 9 lines 53-55.	<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	Page 257 line 24 to page 258 line 19.	

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				<p>predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
			<p>Page 265 line 27 to Page 266 line 21.</p>	
<p>assigning a transmission priority to said data units based on said type of data in said second multimedia portion of said data units determined by said step of processing said data units by placing said data units into said data buffer and;</p>	<p>Column 11 lines 57-64.</p>	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>Page 329 line 2-20.</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to</p>

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transmitting said data units based on said assigned priority determined by the type of data in said second multimedia information portion of said data units to a data port on said switch.	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	<p>configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	<p>Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...</p>

25.	The method of	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform	Page 327 lines 24-31.	Computer, 73, monitors outgoing
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claim 24 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through said switch over a predetermined time span.		controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.		programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.	
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.		Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.	
	Column 17 lines 4-9	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received. At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.		To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ... Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M,	
		Page 337 lines 1-12.		Page 32 lines 9-12.	
		Page 179 lines 14-24.			

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				<p>and to compare said first named instance of "program unit identification code" information to said second named instance. No match results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.</p>
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<p>26. The method of claim 25 further comprising: generating a bill from said total number of data units by comparing said total number of data units with a predetermined billing rate.</p>	Column 3 line 66 to column 4 line 2.	The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.	Page 13 lines 1-9.	<p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.</p>
			Page 28 lines 29-35.	<p>It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	<p>And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.</p>
	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	<p>[Signal processor in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and</p>

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		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	<p>how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p>
			Page 471 lines 26-31.	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information, ...</p>
			Page 473 lines 3-8.	<p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p>
	first, ordered		Page 472 lines 23-27 with	<p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p>
			Page 471 lines 14-16.	<p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567# ...</p>

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		and, second, delivered.	Page 473 line 29 to Page 474 line 1.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
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27. The method of claim 24 further comprising: determining from said decoded first portion of said data units whether said data units should be distributed to multiple data ports on said switch.	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
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28. The method of claim 24 further comprising: comparing said first portion of said data units with a predetermined schedule to determine a re-transmission time for said data units and determining a data port on said switch for re-transmission.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a
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			<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p>
			<p>Page 28 lines 26-27.</p>
			<p>Page 49 lines 26-27.</p>

<p>29. The method of claim 24 further comprising: comparing said first portion of said data units with a predetermined schedule to determine a re-transmission time for said data units and determining multiple data ports on said switch for re-transmission.</p>	<p>Column 11 lines 38-43.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in</p>
			<p>Page 327 line 35 to page 328 line 13.</p>
			<p>Page 84 lines 26-28.</p>

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			television or radio or other programming transmissions....	
			... monitor information that identifies what programming is available, ...	
			Meter-monitor segments contain meter information and/or monitor information.	
			... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	

		... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 28 lines 26-27. Page 49 lines 26-27. Page 325 lines 1-4.	
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30. The method of claim 28 further comprising: verifying said re-transmission by receiving said re-transmitted data units from said determined data port on said switch and repeating said step of processing said data units to identify the type of data in said second multimedia information portion and to identify an address that indicated routing information for said data units.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the informations that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to
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				maintain as station logs.
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31. The method of claim 28 further comprising: receiving a new transmission schedule and changing said predetermined transmission schedule.	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.

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32. The method of claim 24 further comprising: receiving a billing rate.	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
33. A method for routing and distributing multimedia data,	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 3 lines 56-60.	Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programming is co-ordinated with presentations from a microcomputer working with data supplied earlier.	Page 12 lines 3-9.	It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information.

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said multimedia data having a first identification portion and a second multimedia information portion	Column 11 lines 3-5.		Page 2 lines 8-19.	<p>Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)</p> <p>This television based combined medium is but one example of many combined media.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>... a conventional matrix switch, 75, well</p>
	Column 10 lines 41-42.	... connect, by means of conventional	Page 59 lines 29-33	
			Page 324 line 34.	

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switches each with multiple ports and a controller for controlling said network of switches comprising the steps of:	Column 11 lines 57-64.	switches (here matrix switch, 75), to ... Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	known in the art, ... Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
receiving said multimedia data at an input on a first switch, said multimedia data having multimedia signal units separated in the time domain so that said multimedia data is sequentially received;	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.	
processing said multimedia data units by decoding a first encoded portion of said	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them,	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted	

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	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	
routing said multimedia data units to an output port on said network of switches based on said processing step;	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	
storing said multimedia data units in a temporary storage location based on said routing step that was determined in said processing step;	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded	

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transmitting said multimedia data units from said temporary storage location at an asynchronous time,	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
said asynchronous time determined by decoding said first encoded portion of said multimedia data units to determine a type of data in said second multimedia information portion to a second switch.	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming

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			transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ... At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72. Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73. Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that
	Page 28 lines 26-27. Page 49 lines 26-27. Page 328 lines 14-16. Page 325 line 34 to page 326 line 11.		
Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.		
Column 9 lines 47-57.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard	Page 326 lines 16-18. Page 248 line 17 to page 249 line 5.	

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	broadcast and cablecast practices known to exist on that transmission line or frequency.	<p>Page 257 line 24 to page 258 line 19.</p>	<p>apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30,</p>
	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	<p>Page 257 line 24 to page 258 line 19.</p>	

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			<p>controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>	<p>Page 265 line 27 to Page 266 line 21.</p> <p>Page 250 lines 13-17.</p> <p>Page 251 lines 8-11.</p> <p>Page 263 lines 19-24.</p>	<p>controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>
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			Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
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34. The method of claim 33 further comprising: determining from said decoded first encoded portion of said data units whether said data units should be distributed to multiple data ports in said network of switches.	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
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35. The method of claim 33 further comprising: comparing said decoded first encoded portion of said data units with a predetermined schedule to determine a re-transmission time for said data units and determining a data port in said network of switches for said re-transmission.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original

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			transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....	
		 monitor information that identifies what programming is available, ...	
			Meter-monitor segments contain meter information and/or monitor information.	

36. The method of claim 33 further comprising: accumulating information about said identification portion of said data units to calculate the total number of data units passing through each of said multiple ports over a predetermined time span.	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the

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	Column 17 lines 4-9	<p>Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.</p> <p>At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.</p>	<p>Page 32 lines 9-12.</p> <p>Page 179 lines 14-24.</p>	<p>signal processor, 200, of Fig. 3 in example #5.</p> <p>To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...</p> <p>Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16.</p>

37. The method of claim 36 further comprising: generating a bill from said total number of data units by comparing said total number of data units with a predetermined billing rate.	Column 3 line 66 to column 4 line 2.	<p>The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.</p>	<p>Page 13 lines 1-9.</p> <p>Page 28 lines 29-35.</p>	<p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.</p> <p>It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption</p>
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	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programing to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
			Page 471 lines 26-31.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ... Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and

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		first, ordered	Page 472 lines 23-27 with	transmits a particular second SPAM message that consists of ... meter-monitor information including ... Executing said instructions also causes . . . controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information. Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ... Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
			Page 471 lines 14-16.	
		and, second, delivered.	Page 473 line 29 to Page 474 line 1.	

38. A method for coding, decoding, routing and distributing multimedia data,	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	Column 12 lines 13-16.	Controller/computer, 73, monitors the operation of the head end facility by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in	Page 327 lines 13-15.	Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A.

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	Column 3 lines 56-60.	detail in Fig. 2A. Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programming is co-ordinated with presentations from a microcomputer working with data supplied earlier.	Page 12 lines 3-9. Page 2 lines 8-19.	<p>It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information.</p> <p>Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)</p>
said multimedia data having a first identification portion and a second multimedia information portion	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 28 lines 2-3. Page 325 line 34 to page 326 line 7.	<p>This television based combined medium is but one example of many combined media.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission</p>

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using a multiple port switch and a controller comprising the steps of:	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 59 lines 29-33	station; ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. ... a conventional matrix switch, 75, well known in the art, ... Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 324 line 34. Page 328 lines 14-16.	
receiving multimedia data units from a multiple channel data stream, said multiple channel data stream having multimedia data units separated in the time domain so that said multimedia data units have an asynchronous arrival at a data port on said switch;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	
processing said multimedia data units	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted

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by decoding said first portion to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said multimedia data units;		instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72. Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 326 lines 16-18. Page 327 line 35 to page 328 line 13.

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	Column 9 lines 53-55.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 257 line 24 to page 258 line 19.</p> <p>Page 265 line 27 to Page 266 line 21.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0</p>

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	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15. MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
storing said multimedia signal in a temporary storage location based on said routing information determined in said processing step;	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to

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processing said multimedia data units by decoding said second multimedia information portion of said multimedia data units and re-formatting said multimedia data units from said second multimedia information portion of said multimedia data units;	Column 12 lines 26-34.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains. (Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)		the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
			Page 330 lines 10-16	Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding ... Computer, 73, has... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point).... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded
	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p>
			Page 334 lines 1-6.	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>

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				<p>modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			<p>For example, page 332 lines 23-31.</p>	
			<p>For example, page 333 lines 15-21.</p>	
			<p>For example, page 334 lines 1-6.</p>	
re-timing said re-formatted multimedia data units	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause

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<p>into a synchronous data stream.</p>	<p>transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p> <p>Column 11 lines 38-46.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

39. The method of claim 38 further comprising: transmitting said re-timed and re-formatted multimedia data units from said temporary storage location in a synchronous data stream, a synchronizing time determined by a data port on said switch	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
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selected by said address decoded from said first portion of said multimedia data units.	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...

40. The method of claim 38 further comprising: transmitting said re-timed and re-formatted multimedia data units from said temporary storage location in a synchronous data stream, a synchronizing time determined by comparing said decoded first portion of said multimedia data units with predetermined data.	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and

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	Column 11 lines 38-43.	combining and multiplexing system, 92. By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	<p>multiplexing system, 92.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
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41. The method of claim 38 further comprising: accumulating information from said first portion of said	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	<p>Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records,</p>
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multimedia data units to calculate the total number of multimedia data units passing through said switch to each specific destination address over a predetermined time span.	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
	Column 17 lines 4-9	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
		At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ... Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match

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				<p>results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.</p>
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<p>42. The method of claim 41 further comprising: generating a bill from said total number of data units by comparing said total number of data units with a predetermined billing rate.</p>	Column 3 line 66 to column 4 line 2.	<p>The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.</p>	Page 13 lines 1-9.	<p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.</p>
			Page 28 lines 29-35.	<p>It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
	Column 12 lines 54-56.	<p>Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.</p>	Page 337 lines 19-21.	<p>And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.</p>
	Column 20 lines 54-58.	<p>when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,</p>	Page 28 lines 25-35.	<p>[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It</p>

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				has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	that site can determine for billing purposes that the recipe was,		Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
	first, ordered		Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.
			Page 471 lines 14-16.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...
	and, second, delivered.		Page 473 line 29 to Page 474 line 1.	Receiving said message causes the controller, 39, of decoder, 203, to load and

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				execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
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43. The method of claim 38 further comprising: determining from said decoded first portion of said multimedia data units whether said multimedia data units should be distributed to multiple data ports on said switch.	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
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44. The method of claim 38 further comprising: comparing said decoded first portion of said multimedia data units with a predetermined schedule to determine a re-transmission time for said multimedia data units and determining a data port on said switch for re-transmission.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6
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			<p>should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	

45. The method of claim 38 wherein said multimedia information is analog audio.	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	<p>... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>
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46. The method of claim 38 wherein said multimedia information is digital audio.	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	<p>... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>
	Column 13 lines 3-9.	All of these methods involve the use of one or more devices, of which various models exist well known in the art, for the	Page 286 line 34 to page 287 line 2.	<p>Fig. 4 shows ... three decryptors, 107, 224 and 231, a signal stripper, 229, and , ... associated with matrix switch, 258.</p>

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			decryption of programing transmissions and/or one or more other means for interrupting programing transmissions, also well known in the art, which may be as simple as a switch ...	
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47. The method of claim 38 wherein said multimedia information is analog video.	Column 12 lines 57-58.	This particular embodiment describes a transmission facility transmitting only television programming.	Page 339 lines 9-11.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming....
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48. The method of claim 38 wherein said multimedia information is digital video.	Column 12 lines 58-61. Column 14 lines 2-3.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ... For example, only the video portion of the transmission may be encrypted.	Page 339 lines 11-23. Page 288 line 33 to page 289 line 3.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ... Prior to being transmitted, the digital video information is doubly encrypted, ... The digital audio is transmitted in the clear.
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49. The method of claim 38 wherein said multimedia information is analog data.	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
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inputting and storing a command, said command designating at least one of:				segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	Column 11 lines 1-3.	The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 24-27.	The other path inputs the transmission of said given receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed,buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...

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(1) a signal to be stored,	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of

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said signal including at least one of television, radio, video, audio, data, and computer programming;	Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	<p>programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>
(2) a time to communicate a signal; and	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each</p>

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(3) a place to communicate a signal to or from, said place including			Page 84 lines 26-28.	received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 8 lines 58-65.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 59 lines 29-31. Page 290 lines 26-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...
			Page 291 lines 21-24.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...
			Page 402 lines 21-26.	The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.

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			<p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p> <p>For example, page 531 lines 17-22.</p> <p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p> <p>Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 ...</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates</p>

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at least one of a transmitter,	Column 11 lines 12-14.	Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 326 lines 16-18.	said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
video monitor, a speaker, a computer, a processor, a controller, a storage device, and	Column 15 lines 33-39.	FIG 5 shows two conventional TV sets, 132 and 144, a conventional video cassette recorder, 135, a conventional videodisc player, 137, a conventional radio, 141, a conventional microcomputer, 142, a conventional data printer, 146, and a television set, 148, that is capable of displaying two different television programming transmissions at once.	Page 313 line 16 to page 314 line 16.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses. Input apparatus include ... Laser disc player, 232, ... videodisc player") ... Intermediate apparatus include microcomputer, 205, radio tuner & amplifier,

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a subscriber station;	Column 16 lines 59-61.	... identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	213, TV tuner, 215, audio recorder/player, 255, and video recorder/player, 217, all of which are well known in the art ... Output apparatus that display or otherwise output programming selectively to human senses include, for example, TV monitor, 202M, multi-picture television monitor, 148, speaker system, 263, and printer, 221, ... In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field ...
receiving said signal;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
storing said signal at a first storage location,	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.

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said first storage location being capable of being commanded to store and output said signal; and	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
outputting said signal from said first storage location to a second storage location in accordance with said command;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33. Page 331 lines 16-25.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically,</p>		

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			<p>computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>	<p>computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	
storing said signal at said second storage location,	Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>

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said second storage location being capable of being commanded to store and output said signal; and	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
communicating said signal from said second storage location.	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

52. A method of processing signals at a receiver station,	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
said receiver station having a receiver for receiving a transmission,	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
and a plurality of storage locations,	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
each storage location	Column 11 lines 44-46.	Controller/computer, 73, has means for	Page 328 lines 14-16.	Computer, 73, has means for

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	Column 12 lines 57-64.	<p>programming input means, 62, can receive programming transmissions.</p> <p>This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.</p>	Page 339 lines 9-26.	<p>other programming input means, 62.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.</p>
demodulating said information transmission;	Column 10 lines 30-39.	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p>	Page 324 lines 23-31.	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>	<p>are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of</p>
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storing said programming at said second storage location to enable said receiver station to transfer said programming from said second storage location to a computer at a specific time or in response to said command.	column 12 lines 3-8	... controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 333 lines 15-21.	program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	<i>See generally.</i> Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at

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	Column 17 lines 56-62.	<p>players, 76 and 78, or other similar equipment well known in the art, such as prerecorded programming can be transmitted to the field.</p> <p>One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.</p>	<p>Page 396 line 33 to page 397 line 4.</p>	<p>or other similar equipment well known in the art, such as prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.</p>
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53. The method of claim 52 further comprising the steps of: storing programming storage information indicating that said programming is stored in said first storage location; and	<p>Column 12 lines 26-29.</p> <p>Column 12 lines 47-50.</p>	<p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p> <p>... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.</p>	<p>Page 330 lines 5-15.</p> <p>Page 337 lines 8-12</p>	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.</p>
updating said programming storage information when said programming has been	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information

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transferred to said second storage location.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...

54. The method of claim 52 further comprising the step of embedding in said programming an identification signal identifying said programming, and said steps of storing including storing said programming with said embedded identification signal.	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency.
			Page 14 line 35 to page 15 line 2.	
			Page 36 lines 2-3.	
			Page 36 lines 19-20.	
	Column 11 lines 3-5.	Signal processor, 71, has means, described	Page 325 line 34 to	At signal processor system, 71, which is a

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		above, to identify and separate the instruction and information signals from their associated programming and ...	page 326 line 7.	<p>system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 59 lines 29-33	
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 329 line 15-16. Page 319 lines 23-30.	

55. The method of claim 54 further comprising the steps of: communicating said programming and said	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
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embedded identification signal from said second storage location to said output device;				
detecting said identification signal in said programming; and	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
recording information indicating that said programming was communicated.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.

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56. The method of claim 52 further comprising the step of receiving and identifying a signal instructing said receiver station to communicate said programming to an output device.	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202.	Page 26 lines 1-8. Page 37 line 26 to page 38 line 8.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
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57. The method of claim 56 further comprising the step of communicating, in response to said signal, said programming from said second storage location to said output device.	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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				<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example,</p>
Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 49 lines 26-27.	Page 331 lines 17-33.	
	to reorganize the order in which programming units are stored on either recorder/player or on both,		Page 331 lines 16-25.	
	controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		Page 334 lines 1-6.	
			Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	

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			<p>four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>
			<p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p>
			<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be</p>

For example, page 332 lines 23-31.

For example, page 333 lines 15-21.

For example, page 334 lines 1-6.

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				transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
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59. A method of communicating signals in a network, said network including an origination station, at least one intermediate station that receives and transmits said signals, and at least one subscriber station, said method comprising the steps of:	Column 10 lines 24-39.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B and 3C illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. The means for and method of transmission of programming described here is well known in the art. The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 18-31.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. The means and methods for transmitting conventional programming are well known in the art. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.

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	Column 15 lines 27-30.	FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programing usage and associated uses of other data transmissions and equipment.	<p>Page 312 line 33 to page 313 line 8.</p> <p>Page 28 lines 25-29.</p>	<p>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...</p> <p>[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage.</p>
storing television programming at a first storage location, said television programming, including video and audio;	<p>Column 11 lines 64-65.</p> <p>Column 14 lines 1-4.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>Encrypted transmissions may be only partially encrypted.</p>	<p>Page 329 line 15-16.</p> <p>Page 149 line 27 to page 150 line 6.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said</p>

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transferring, under computer control, said television programming from said first storage location to a second storage location at a selected one of said at least one intermediate station;					bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.
			For example, only the video portion of the transmission may be encrypted. The audio portion may remain unencrypted.	Page 288 line 30 to page 289 line 4.	In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal that consists of so-called "digital video" and "digital audio," well known in the art. Prior to being transmitted, the digital video information is doubly encrypted, The digital audio is transmitted in the clear.
	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programming units are stored on either recorder/player or on both,		Page 331 lines 17-33. Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
				Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>	
			<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	
			<p>For example, page 332 lines 23-31.</p>	

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storing said television programming at said second storage location to enable said selected intermediate station to communicate said television programming from said second storage location to a selected one of said at least one subscriber station;	column 12 lines 3-8	... controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 333 lines 15-21.	program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 334 lines 1-6.	<i>See generally.</i> Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83,

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 325 lines 6-9.</p>	<p>immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
communicating a programming	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

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<p>identification signal from said origination station to said selected intermediate station, said programming identification signal identifying said television programming stored at said second storage location;</p>					<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
				Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
				Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>
				Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	<p>Column 12 lines 26-29.</p>	<p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p>		Page 330 lines 5-15.	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...</p> <p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>

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detecting, at said selected intermediate station, said programming identification signal communicated from said origination station; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
communicating said television programming from said second storage location to said selected subscriber station based on said programming identification signal.	Column 11 lines 41-43. Column 10 lines 49-52.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 328 lines 11-13. Page 325 lines 6-9.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ... When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

60. A method of communicating signals in a network, said network including an origination station, a plurality of intermediate stations that receives and retransmits said signals, and a plurality of subscriber stations that receive said	Column 10 lines 15-23. Column 19 lines 60-62.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions. At this point, an instruction signal is generated in the television studio	Page 324 lines 8-24. Page 59 lines 29-33.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ... A SPAM message is the modality whereby the original transmission station that originates
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signals, said method comprising the steps of:		originating the programming ...	<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p>	<p>said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p>
	<p>Column 10 lines 24-28.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p>	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>
	<p>Column 15 lines 27-30.</p>	<p>FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programming usage and associated uses of other data transmissions and equipment.</p>	<p>Page 312 line 33 to page 313 line 8.</p> <p>Page 28 lines 25-29.</p>	<p>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...</p> <p>[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving</p>

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storing television programming at a first storage location at a first intermediate station, said first intermediate station being one of said plurality of intermediate stations in said network;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
transferring, under computer control, said television programming from said first storage location to a second storage location at a second intermediate station, said second intermediate station being one of said plurality of intermediate stations in said network;	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53,

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		TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.		54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
storing said television programming at said second storage location to enable the communication of said television programming from said second intermediate station to at least one of said plurality of subscriber stations.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

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61. The method of claim 60 further comprising the steps of: communicating a programming identification signal from said origination station to said first intermediate station, said programming identification signal identifying said television programming;	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when</p>

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			Page 84 lines 26-28.	and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
	Column 15 lines 58-60.	[The signals for which the decoders are monitoring] ... are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.
			Page 50 lines 14-20.	
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
detecting, at one of	Column 11 lines 3-5.	Signal processor, 71, has means, described	Page 325 line 34 to	At signal processor system, 71, which is a

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said plurality of intermediate stations, said programming identification signal communicated from said origination station;	above, to identify and separate the instruction and information signals from their associated programming and ...	page 326 line 7.	system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...	
Column 9 lines 33-40.	Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
		Figs. 2A-2C. Page 35 lines 1-6.	<i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.	
		Page 35 lines 16-18.	The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.	
		Page 35 lines 27-30.	The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...	
		Page 36 lines 1-3.	Fig. 2B shows a radio signal decoder that detects and processes signal information	

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	Column 9 lines 47-57.		Page 36 lines 18-20. Page 37 lines 26-28. Page 248 line 17 to page 249 line 5. Page 257 line 24 to page 258 line 19.	<p>embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p> <p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause</p>
		The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.		

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		<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p>	<p>the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
			<p>Page 265 line 27 to Page 266 line 21.</p>	<p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
	<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG.</p>		<p>Page 250 lines 13-17.</p>	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast,</p>

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	2B.		Page 251 lines 8-11. Page 263 lines 19-24.	of the first message of the "Wall Street Week" program which is the message of the first combining synch command. Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 37 lines 26-28. Page 327 line 35 to page 328 line 13.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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communicating said television programming from said second storage location to at least one of said plurality of subscriber stations in response to detecting said programming identification signal.	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	

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	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	<p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 329 line 2-20.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The

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			<p>information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p>
	Then, in a predetermined fashion, microcomputer, 205, may		<p>Page 439 lines 9-15.</p>
	instruct tuner, 214, to switch box, 201, to channel X		<p>Page 295 lines 6-8.</p>
	and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"		<p>Page 445 lines 24-27.</p>

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			Page 446 lines 18-23.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
		and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.	...and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...

62. The method of claim 61 further comprising the step of verifying that said television programming was communicated from said second storage location.	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
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63. The method of claim 60 wherein said television programming at second storage location further comprises the steps of: identifying said television programming;	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
embedding identification data in said television programming, said	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted

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identification data identifying said television programming;			into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 59 lines 29-33</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
			<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>

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	<p>Column 12 lines 38-41.</p> <p>Column 9 lines 31-33.</p>	<p>... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.</p> <p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p>	<p>Page 28 lines 26-27.</p>	<p>... monitor information that identifies what programming is available, ...</p>
			<p>Page 49 lines 26-27.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 354 lines 21-24.</p>	<p>... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.</p>
			<p>Page 22 lines 1-6.</p>	<p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p>
			<p>Page 14 line 35 to page 15 line 2.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
			<p>Page 36 lines 2-3.</p>	<p>... processes signal information embedded in an inputted radio frequency.</p>
<p>storing said television programming with said embedded identification data at said second storage location to enable communication of said television programming from said second intermediate station to at least one of said</p>	<p>Column 11 lines 64-65.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p>	<p>Page 329 line 15-16.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
	<p>Column 4 lines 5-13.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must</p>	<p>Page 13 lines 25-32.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to</p>

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plurality of subscriber stations.		switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.		the timing of programming transmissions. They can be conveniently monitored.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

64. The method of claim 63 further comprising: detecting said embedded identification data in said television programming; and	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
storing information indicating that said television programming was communicated based on said step of detecting said embedded identification data.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6,

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				information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
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65. The method of claim 60 wherein said step of storing said television programming at said first storage location further comprises storing first television programming and second television programming on a first storage device; and	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W

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said step of storing said television programming at said second storage location					should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
				For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
				For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
				For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
		Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on

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				channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
(b) storing said first television	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units

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programming and said second television programming on said second storage device in said specific order.				of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
	to reorganize the order in which programming units are stored on either recorder/player or on both,		Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
	controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	<i>See generally.</i> Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W

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			<p>first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>

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66. A method of processing signals at a receiver station comprising the steps of:	Column 10 lines 24-39.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B and 3C illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. The means for and method of transmission of programming described here is well known in the art. The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 18-31.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. The means and methods for transmitting conventional programming are well known in the art. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
receiving one of a broadcast and cablecast transmission;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
demodulating said one of a broadcast and cablecast transmission,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier,

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said one of a broadcast and cablecast transmission including an embedded signal;		their associated programing and ...		63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
	Column 6 lines 45-48.	The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal.	Page 59 lines 29-33 Page 34 lines 31-35.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal.
detecting said embedded signal on said one of a broadcast and cablecast transmission;	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and ...	Page 325 line 34 to page 326 line 7. Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The

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selecting information stored at a first storage location in response to said embedded signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program

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		incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
transferring said information from said first storage location to a second storage location based on said embedded signal, thereby providing a computer access to said information; said first storage location and said second storage location being capable of being commanded to store and output programming.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		If controller/ computer, 73, determines at any time that it is necessary	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33.

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the

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				channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

67. The method of claim 66, wherein said information includes one of television and radio programming, and	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the
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wherein said step of selecting said information includes selecting said one of television and radio programming stored at said first storage location in response to said embedded signal; and	Column 11 line 67 to Column 12 line 8.		fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
wherein said step of transferring said information includes transferring, under computer control, said selected one of television and radio programming from said first storage location to said second storage location, and said method further comprising the step of:	Column 11 line 67 to Column 12 line 8.	<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>See generally.</p>
			<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to</p>

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		for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	page 334 line 6 For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the

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communicating, under computer control, said one of television and radio programming stored at said second storage location to an output device in response to a second embedded signal on said one of a broadcast and cablecast transmission.	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	For example, page 334 lines 1-6. Page 337 lines 8-12	output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. ... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.

68. A method of controlling communication of television programming at a transmission station,	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to
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where said television programming includes video and audio,	Column 4 lines 18-26.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 6-15.	cable systems that cablecast many channels simultaneously. In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.
said transmission station having at least one storage device for storing said television programming,	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
transferring means for transferring said television programming within said transmission station from a first storage location to a second storage location,	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
and a computer for controlling said transferring means and identifying said television programming on the basis of identification information associated with said television programming, said method comprising the	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,

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steps of:		Column 11 lines 12-14.	Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 326 lines 16-18.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
inputting schedule information that specifies said television programming, and at least one of:		Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
(a) a time to communicate said television programming; and		Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
(b) a place to communicate said television programming to;		Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
transferring said television programming from said first storage location to said second storage location thereby enabling said transmission station to communicate said television programming from said second storage location to a receiver station in accordance with said schedule information.		Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
				Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
			If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p>
			Page 334 lines 1-6.	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>

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			modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

For example, page 332 lines 23-31.

For example, page 333 lines 15-21.

For example, page 334 lines 1-6.

69.	The method of	Column 12 lines 1-3.	... to reorganize the order in which	Page 331 lines 16-25.	Computer, 73, has capacity for
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claim 68, wherein said first storage location and second storage location are separate storage locations on a storage device, said step of transferring said television programming further comprising transferring location information of said television programming from said first storage location to said second storage location.		programming units are stored on either recorder/player or on both, ...	Page 334 lines 1-6.	<p>automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
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70. The method of claim 68 wherein said schedule information further specifies an output channel on which to communicate said television programming.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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71. The method of claim 68, wherein said first storage location is at a first storage device, said second storage location is at a second storage device, and said transferring means is a matrix switch, and	column 12 lines 3-8	... controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	<p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example,</p>
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wherein said step of transferring further includes:		<p>four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be</p>	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>

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configuring said matrix switch to connect said first storage device to said second storage device, said first storage device being connected to an input to said matrix switch, and said second storage device being connected to an output of said matrix switch;	Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
outputting said television programming stored at said first storage device to the input of said matrix switch;		to reorganize the order in which	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for

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		programming units are stored on either recorder/player or on both,		<p>automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83.</p>
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	

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				<p>immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	
inputting said television programming to said second storage device from said matrix switch; and	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	

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storing said television programming at said second storage device.	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			Page 331 lines 17-33.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to</p>

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 334 lines 1-6. Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. <i>See generally.</i> Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W

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			should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

72. A transmission station apparatus for	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants
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communicating programming, said apparatus comprising:		as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.		as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
a receiver for receiving an information transmission, said information transmission including said programming;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
a first storage device connected to said receiver for storing said programming;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
a second storage device connected to said first storage device,	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
said second storage device storing said programming output by said first storage device;	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder,

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			Page 333 lines 15-21.	78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
a switch connected to said first storage device and said second storage device;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
a computer connected to said first storage device, said second storage device, and said switch for controlling said first storage device to output said programming to said second storage device and controlling said second storage device to output said programming to said switch, said computer being capable of:	Column 11 lines 44-46. Column 11 lines 66 to Column 12 line 8.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 328 lines 14-16. Page 332 lines 24-30. Page 333 lines 15-21.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of

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		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y,

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D</p>

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					to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
(1) selecting a storage device to store said programming;	Column 11 lines 60-61.		... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
(2) commanding said switch to transfer said programming to said selected storage device; and	Column 11 lines 61-64.		... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
(3) commanding said selected storage device to store said programming; and	Column 11 lines 64-65.		... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
a cable network connected to said switch for receiving said programming output from said second storage device and communicating said programming to a plurality of subscriber stations.	Column 10 lines 43-47.		... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
73. The apparatus of claim 72, further comprising: a signal encoder connected to said computer for encoding an identification signal	Column 12 lines 38-41.		... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

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on said programming;				
a channel modulator connected to said switch and to said cable network, said channel modulator modulating said programming output by said second storage device through said switch, said cable network communicating said modulated programming to said subscriber; and	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a verification circuit connected to at least one of said switch, said cable network, and said channel modulator for verifying at least one of the time, channel, and frequency of transmission of said programming, said verification circuit comprising a signal decoder for decoding, said encoded identification signal.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.

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74. An apparatus for controlling communication of television programming at a transmission station comprising: a first storage device for storing said television programming;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
a second storage device for storing said television programming;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
a configurable switch connecting said first storage device to said second storage device;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
a modulator connected to said second storage device for communicating said television programming to subscribers; and	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a computer connected to said first storage device, said second storage device, and said configurable switch, said computer having a memory and being programmed to perform the following steps:	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
(a) receiving and	Column 11 lines 18-31.	The controller/computer, 73, has means for	Page 326 line 27 to	Computer, 73, has means for receiving input

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storing a programming schedule, said programming schedule designating said television programming, a time to communicate said television programming, and one of a communication channel and frequency for communicating said television programming;		receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	page 327 line 2.	information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
(b) controlling said first storage device to receive and store said television programming;	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to

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(c) controlling said configurable switch and said first storage device to transfer said television programming from said first storage device to said second storage device;	Column 11 lines 66 to Column 12 line 8.			the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
		Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>	<p>and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play</p>
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				and recorder, 78, to record for the duration of program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 333 lines 15-21. For example, page 334 lines 1-6.	
(d) controlling said second storage device to store said television programming; and	Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25. Page 334 lines 1-6.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

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(e) controlling said second storage device and said modulator to communicate said television programming from said second storage device to said subscribers according to said programming schedule.	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Column 12 lines 8-12.	Were this head end facility equipped with automatic operating equipment well known in television studios, controller/computer, 73, could pass appropriate operating instructions to such equipment.	For example, page 365 line 22 to page 366 line 4. For example, page 349 lines 14-20.	Executing the information of said intermediate generation set causes computer, 73, also to generate a ... video image and to organize the locations of the recorded program units, D, Q, W, and Y, to play according to the schedule inputted by said distribution station in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units ...

75. A method of communicating subscriber station information from a subscriber station to at least one remote collection station, said method comprising the steps of:	Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...
			Page 273 lines 4-6.	The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station.
			Page 273 lines 21-25.	... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.

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inputting an instruct signal which is effective at said subscriber station to output a signal from a first storage location and store said signal at a second storage location;	Column 8 lines 58-65.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	<p>Page 59 lines 29-31.</p> <p>Page 290 lines 26-31.</p> <p>Page 291 lines 21-24.</p> <p>Page 402 lines 21-26.</p> <p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of</p>
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				<p>finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...</p> <p>Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...</p>
	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	For example, page 224 lines 12-16.	
detecting the presence of an instruction associated with said instruction signal, said instruction being effective at said subscriber station to	Column 20 lines 49-54.	Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received.	Page 473 line 29 to page 474 line 1	<p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to</p>

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generate subscriber station specific data and to select and assemble said subscriber station specific data into a record;			<p>increment the information of said signal record of meter information in the fashion described above.</p> <p>At printer, 221, is other decoder, 227. At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.</p>	
processing at said subscriber station inputted data and performing, in response to said instruction, one of	Column 20 lines 19-26.	<p>Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...</p>	<p>Page 314 line 30-33.</p> <p>Page 471 lines 6-25.</p>	<p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p> <p>... Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p>

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processor, and a	Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to page 316 line 6.	Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)
controlled device, said receiver station	Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to page 316 line 6.	Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)
transferring said information to a remote station, said method comprising the steps of:	Column 17 lines 16-17.	... to be handled, recorded, and transmitted to a remote site with all other monitor information.	Page 28 lines 25-35	[Signal processor ... 200 in Fig. 7 ... and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has

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identifying at least one of				capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
	Column 15 lines 57-62.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
			Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
			Page 49 line 26 to Page 50 line 4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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a device and a control signal which operates to output a signal from a first storage location and store said signal at a second storage location;	Column 17 lines 17-21.	In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programming usage and viewership.	Page 322 lines 19-26.	For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3 (which are not encrypted) will cause not only decoder, 203, to process the meter-monitor information of said messages and transmit the aforementioned 1st monitor information (#3) and 2nd monitor information (#3), via the monitor information bus means of Fig. 5, to onboard controller, 14A.	
			Page 174 lines 4-23.	Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203, ... then all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")	
	Column 8 lines 58-65.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.	
			Page 290 lines 26-31.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...	
			Page 291 lines 21-24.	In the fashions described above, so	

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			<p>Page 402 lines 21-26.</p> <p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p> <p>For example, page 531 lines 17-22.</p> <p>Page 33 lines 18-20.</p>	<p>transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p> <p>Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 ...</p> <p>Controller, 20, has capacity for controlling the operation of all elements of the signal</p>

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	Column 8 lines 44-46.	[Controller, 20] can tell buffer/comparator, 14, what and how to count, what and how to mark signals, and what received signals to discard.	<p>Page 32 lines 20-21.</p> <p>Page 32 lines 10-13.</p> <p>For example, page 223 lines 22-33.</p>	<p>processor ...</p> <p>Buffer/comparator, 14, operates under control of controller, 20, ...</p> <p>... buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.</p> <p>Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at</p> <p>buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause</p> <p>buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...</p> <p>Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor</p>
			For example, page 224 lines 12-16.	
	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.	

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monitoring said at least one of a device and	Column 17 lines 10-12.	Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate.	Page 315 lines 25-28.	records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...
	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5. Page 436 line 9 to page 437 line 3.	<p>In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects</p>

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a control signal;	Column 15 lines 27-30.	<p>FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programming usage and associated uses of other data transmissions and equipment.</p>	<p>Page 439 lines 14-15.</p> <p>Page 312 line 33 to page 313 line 8.</p> <p>Page 28 lines 25-29.</p> <p>Page 435 lines 16-18.</p>	<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...</p> <p>[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p>

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		<p>signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p>	

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storing a record of the use of said at least one of a device and a control signal; and			Page 439 lines 14-15.	... to receive the transmission of cable channel 13; ...
	Column 7 lines 65-67.	Buffer/comparator, 14, has means for identifying, according to a predetermined fashion, which signals are to be recorded.	Page 31 line 30 to page 32 line 6.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information ... organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") ... and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, ...
	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 268 line 28 to page 269 line 12 from example #5.	In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix

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			switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)
77. A method of controlling a network comprising at least one remote intermediate transmitter station and at least one receiver station, with said at least one remote intermediate transmitter station including	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p>
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrate one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.

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		Column 12 lines 58-61.	television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
a transmitter for transmitting data,		Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
a plurality of selective transfer devices each operatively connected to said transmitter,		Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a data receiver for receiving data from at least one origination		Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna,	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise

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transmitter station,			<p>50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>Signals may also be transmitted on frequencies outside the ranges of television and radio.</p>		<p>amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>
	Column 4 lines 26-28.			<p>Page 14 lines 15-17.</p> <p>Page 463 lines 10-29.</p>	<p>In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming...</p> <p>(To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].)</p>

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a control signal detector,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...	
and a computer capable of controlling	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
said plurality of selective transfer devices, and with said at least one remote intermediate transmitter station adapted	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 326 lines 19-20. Page 328 lines 14-16.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...	
to detect a control signal,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said	

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to control the communication of said data	Column 6 lines 50-53.	These separate detectors are designed to act on the particular frequency ranges in which the encoded information may be found.	Page 59 lines 29-33	transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 35 lines 1-4.	The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found.
	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to

Claim Language	Support to parent application filed November 3, 1981	Language	Reference	Support to instant specification
in response to said control signal, and	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	Page 327 line 35 to page 328 line 13.	<p>matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program</p>
to deliver said data to said transmitter, said	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53,	Page 328 line 22 to page 329 line 1.	

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		Reference	Language	Reference	Language
method comprising the steps of:			should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
receiving at said at least one origination transmitter station said data to be transmitted by said at least one remote intermediate transmitter station and		Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
		Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

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		<p>schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>		<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 11 lines 50-57.	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	Page 328 line 22 to page 329 line 1.	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel</p>

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delivering said data to at least one origination transmitter, said data comprising an instruct signal which is effective in said network to	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system</p>
output a signal from a first storage location and store said signal at a second storage location;	Column 8 lines 58-65.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 59 lines 29-31.</p> <p>Page 290 lines 26-31.</p>

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			Page 291 lines 21-24.	transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ... In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ... The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.
			Page 402 lines 21-26.	Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.
			Page 403 lines 7-12.	Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...
			Page 405 lines 20-29.	Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus
			For example, page 531 lines 17-22.	

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	Column 8 lines 25-27.	The controller, 20, governs the operation of all operating elements of the apparatus.	Page 33 lines 18-20.	from controller, 12, via controller, 20, rather than via matrix switch, 259 ...
	Column 8 lines 44-46.	[Controller, 20] can tell buffer/comparator, 14, what and how to count, what and how to mark signals, and what received signals to discard.	Page 32 lines 20-21. Page 32 lines 10-13.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... Buffer/comparator, 14, operates under control of controller, 20, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.
			For example, page 223 lines 22-33.	Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.
			For example, page 224 lines 12-16.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...

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	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.
(2) receiving said control signal which operates at said at least one remote intermediate transmitter station to control the communication of said data; and	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 327 line 35 to page 328 line 13.
		Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...	
		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
		At this point, an instruction signal is generated at said program originating studio, ...	
		The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.	
		Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor	

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			<p>information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
	Page 84 lines 26-28.		
	Page 28 lines 26-27.		
	Page 49 lines 26-27..		
	Page 328 line 22 to page 329 line 1.		
	Column 11 lines 50-57.	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	

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(3) transmitting said control signal to said at least one origination transmitter	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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before a specific time.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

78. A method of controlling	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially

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a plurality of receiver stations each of which includes	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	transmitted SPAM messages. It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
a data receiver,	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
a signal detector,	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
at least one computer,	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 472 lines 4-12.	... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
and with each of said plurality of receiver stations adapted to detect the presence of a control signal and	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information

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<p>to input a viewer reaction to an offer communicated in a mass medium program, said method of controlling comprising the steps of:</p>	<p>Column 20 lines 19-26.</p>	<p>Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...</p>	<p>Page 471 lines 6-25.</p>	<p>invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200 ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
<p>receiving a first code at a transmitter station,</p>	<p>Column 10 lines 61-64.</p>	<p>Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.</p>	<p>Page 324 lines 23-33.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are</p>

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	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
wherein said first code designates one of	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 3 lines 30-31.	The present invention consists of methods and apparatus with several forms.	Page 16 lines 15-27.	The present invention employs signals embedded in programming.
a product or service offered in a mass medium program and				A central objective of the present invention is to provide flexibility in regard to installed station apparatus. At any given time, the system must have capacity for wide variation in individual station apparatus in order to provide individual subscribers the widest range of information options at the least cost in terms of installed equipment. Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates ...
	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-

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		converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.		<p>and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission</p>	<p>476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	

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a viewer reaction	Column 20 lines 27- 31.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...	<p>Page 474 lines 3-7.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p>
to an offer communicated in a mass medium program;	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 471 lines 6-13.	<p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".</p>
receiving a second	Column 10 lines 61-64.	Incoming programming transmissions are	Page 324 lines 23-33.	The station receives programming from many

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code at said transmitter station,	<p>Column 4 lines 5-6.</p> <p>Column 20 lines 27-33.</p>	<p>received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.</p> <p>These techniques employ signals embedded in programs.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...</p>	<p>Page 13 lines 25-26.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>The present invention employs signals embedded in programming.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory and to cause ...</p> <p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of</p>
wherein said second code operates at said plurality of receiver	<p>Column 11 lines 66 to Column 12 line 8.</p>	<p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.</p>	<p>Page 332 lines 24-30.</p>	

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stations to output a signal from a first storage location and store said signal at a second storage location;		<p>Page 333 lines 15-21.</p>	<p>recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>
	<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p>	<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p>	
		<p>Page 334 lines 1-6.</p>	
		<p>Page 331 line 17 to</p>	

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		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	page 334 line 6 For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the

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transferring said first code and said second code to a transmitter at said transmitter station; and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	For example, page 334 lines 1-6. Page 328 line 22 to page 329 line 1.
		output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.	
	Column 4 lines 5-6. Column 2 lines 63-66.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. The present invention employs signals embedded in programming. (The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	

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transmitting said first code and said second code.	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function

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					<p>instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory and to cause ...</p>
79. A method of communicating data and update material to at least one	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	<p>... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p> <p>Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6;</p>
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.		
of a plurality of receiver stations, each of which includes	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS.	Page 390 lines 30-35.		

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a data receiver,	Column 18 lines 62-65.	6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 396 lines 8-10. Page 423 lines 11-13. Page 424 lines 2-9.
a data storage device,	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.
a control signal	Column 19 lines 63-64.	This signal is identified by decoder, 203,	Said signal is identified by decoder, 203;

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detector,		and transferred via processor, 204, to microcomputer, 205.	Page 37 line 26 to page 38 line 8.
a computer capable of processing data, with each of said plurality of receiver station adapted	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.
to detect and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.
respond to an instruct signal and to	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall	Page 21 lines 20-24.
		transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A&T news item.) Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall	

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store data for subsequent processing, said method comprising the steps of:	Column 19 lines 46-53.	<p>Street Week" programing transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>Street Week" programming transmission.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing</p>

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receiving data to be transmitted and	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	loading and running information for a particular combining.) The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
delivering said data to a transmitter;	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
receiving an instruct signal	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV

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which operates at at least one of said plurality of receiver stations to output a signal from a first storage location and store said signal at a second storage location;	Column 19 lines 43-44.	can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions. ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 8 lines 58-65.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 59 lines 29-31. Page 290 lines 26-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30, ...
			Page 291 lines 21-24.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...
			Page 402 lines 21-26.	The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.
			Page 403 lines 7-12.	Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said

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				information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18. When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ... Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...
	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	For example, page 224 lines 12-16. Page 31 line 30 to page 32 line 1.	
transferring said instruct signal to said transmitter; and	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
transmitting an	Column 12 lines 45-47.	Beyond channel combining system and	Page 337 lines 1-8.	Fig. 6 shows particular signal processor

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<p>information transmission comprising said data and said instruct signal.</p>	<p>Column 19 lines 46-53.</p>	<p>multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>

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	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	<p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
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80. An interactive method for data promotion and	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	<p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes</p>
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<p>delivery for use with an</p>	<p>Column 20 lines 46-49.</p>	<p>When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.</p>	<p>said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe... instructions ...</p> <p>... selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission....</p> <p>... causes ... said decoder, 290, to detect and process properly the information of said second message.</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above—for example, in the method of the first message of example #4.)</p> <p>Receiving said output information causes printer, 221, to print the information of said specific recipe and list.</p> <p>Fig. 7F illustrates a method for generating and communicating information to selected</p>
<p>interactive mass medium program</p>	<p>Column 20 lines 12-15.</p>	<p>FIG 6D illustrates one method for coordinating the presentation of information</p>	<p>Page 473 lines 3-13.</p> <p>Page 477 lines 12-17.</p> <p>Page 477 lines 23-29.</p> <p>Page 478 lines 1-5.</p> <p>Page 475 lines 1-2.</p> <p>Page 469 lines 3-6.</p>

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output apparatus comprising the steps of:		through the use of print with video. FIG 6D also illustrates possible uses of a decrypter and a local input.	Page 478 lines 1-5.	subscribers through the coordination of computers, television, and broadcast print. Fig. 7F also illustrates use of a local input, 225. (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above—for example, in the method of the first message of example #4.)
outputting a mass medium program that promotes data,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 470 lines 1-3 and Page 470 lines 9-12.	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
said interactive mass medium program output apparatus having an input device to receive input from a subscriber;	Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
prompting said subscriber during said mass medium program	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed

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whether said subscriber wants said data promoted in said step of outputting,			printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."		copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
	said interactive mass medium program output apparatus having a memory for storing code;	Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
		Column 20 lines 26-27.	... to hold and process further in a predetermined fashion.	Page 471 lines 22-25.	Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
receiving a reply from said subscriber at said input device in response to said step of prompting,		Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
	said interactive mass medium program output apparatus having a processor for processing said subscriber reply and	Column 20 lines 31-36.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...

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said data;		channel to receive the recipe in encoded digital form ...	<p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>

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		Column 20 lines 63-65.	... and transfer [the signals conveying the recipe] via processor, 204, to signal processor, 200, ...	Page 473 lines 26-28.	Automatically, said controller, 39, of decoder, 145, transfers said message to the controller, 39, of decoder, 203.
processing said reply and		Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory and to cause ...
selecting code designating said data,		Column 20 line 49-52.	Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16.	Page 473 line 29 to page 474 line 1	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
				Page 314 line 30-33.	At printer, 221, is other decoder, 227. At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.

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said interactive mass medium program output apparatus having a transmitter for communicating information to a remote station;		Column 20 lines 54-56.	... when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, ...	Page 28 lines 25-35.
				[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving what programming information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
communicating said selected code to said remote station,		column 20 lines 49-58.	...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.	Page 49 lines 26-28. Page 50 lines 14-17.
said interactive mass medium output apparatus and said remote station comprising a network having a plurality of transmitter stations;		Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.
				The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that

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assembling, in said network, a signal	Column 20 line 27. Column 2 line 63 to column 3 line 3.	Five minutes later, ... (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ... (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission. Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, ... Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert,	
	Column 20 lines 31.	This signal instructs buffer/comparator, 8, ...	Page 471 lines 26-28. Page 14 lines 26-32.	
	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 472 lines 13-15. Page 37 lines 22 to page 38 line 10.	

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which is effective at said interactive mass medium program output apparatus to store said data at said memory,	Column 20 lines 63-65.	...	Page 156 line 33.	as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
	Column 20 lines 16-19.	... and transfer [the signals conveying the recipe] via processor, 204, to signal processor, 200, ...	Fig. 3A shows one such preferred controller, 39.	
said interactive mass medium program output apparatus having a receiver for receiving at least a portion of said signal from said remote station;		Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.	
			Page 157 lines 5-7.	
			Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
			Page 473 lines 26-28.	Automatically, said controller, 39, of decoder, 145, transfers said message to the controller, 39, of decoder, 203.
			Page 470 lines 1-3 and	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."
			Page 470 lines 9-12.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate

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			station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.	Page 470 lines 19-21. Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
delivering at least a portion of said signal at said interactive mass medium program output apparatus; and	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.		Page 472 lines 4-12. Page 37 line 26 to page 38 line 8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe... instructions selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission.... ... causes ... said decoder, 290, to detect and process properly the information of said second message.
delivering said data on the basis of said signal.	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.		Page 473 lines 3-13. Page 477 lines 12-17. Page 477 lines 23-29.	

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				Page 478 lines 1-5.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
				Page 475 lines 1-2.	
81. The method of claim 80, wherein said signal is embedded in the non-visible portion of a television signal.	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.		Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
82. The method of claim 80, wherein evidence information evidencing one of the availability, use and usage of said mass medium program and said data is stored and communicated to a remote data collection station, said method further comprising the step of selecting said evidence information that identifies at least one of:	Column 18 lines 30-41.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,		Page 408 lines 18-29 Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion. Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.

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			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
	for recording and subsequent transmission to a remote data collection site.		Page 411 line 28 to page 412 line 2.	In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause

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			<p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>	<p>a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st" monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote</p>
		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p>		

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			Page 397 lines 17-20.	<p>so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>
(1) a mass medium program;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28.	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique identifier codes for each program unit (including commercials);</p>
	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 50 lines 6-7. Page 319 lines 30-33.	<p>For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.</p>
(2) a use of data;	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes</p>

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	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	<p>controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
(3) a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 1-4.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Examples of categories of such information include:</p> <p>... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...</p>
(4) a receiver station;	Column 16 lines 56-61.	<p>... and, in a predetermined fashion, create a signal string</p> <p>by appending digital information to the received signal which information might</p>	<p>Page 180 lines 1-3.</p> <p>Page 297 line 15.</p> <p>Page 180 lines 4-15.</p>	<p>Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.</p> <p>...creating a meter record that records the decryption....</p> <p>Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular preprogrammed record....</p>

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			identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 13, in first and last particular time field...
(5)	a network;	Column 16 lines 32-35. Column 16 lines 39-41.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 319 lines 30-33. Page 320 lines 2-8.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
(6)	a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7)	a channel on a cable system;	Column 16 lines 35-41.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 319 line 33 to page 320 line 8.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ...

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				embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) a unique identifier datum;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28. Page 50 lines 6-7.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique identifier codes for each program unit (including commercials);....
(10) a source or supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	Page 49 lines 26-28. Page 50 lines 19-20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: unique codes that identify the sources and suppliers of computer data.
(11) a distributor or advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertise ments, etc.	Page 321 lines 1-6. Page 360 lines 31-34.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can For example, another of the aforementioned

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				<p>discounts and cents-off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:</p> <p>.....</p> <p>15 cents off 15 cents off</p> <p>Nabisco Zweiback Teething Toast</p> <p>.....</p>	
(12) an indication of a payment obligation.	column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.</p>	<p>Page 49 lines 12-13.</p> <p>Page 49 lines 28-35.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>	
83. The method of claim 80, wherein said signal incorporates executable code, said method further comprising the steps of communicating said	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals	

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code to said processor and			addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	Page 34 lines 24-26.	to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
	performing, on the basis of said code, one of:	Column 17 lines 45-46.	This permits many valuable techniques for facilitating the operation of such external equipment.	Page 44 lines 14-15. Page 95 lines 18-21.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
		Column 17 lines 62-64.	Signal processor, 200, is always operating and monitors all incoming channels.	Page 390 lines 26-29. Page 390 lines 26-29. Page 397 lines 17-20.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above;....
(1) receiving a signal containing said data;		Column 20 lines 33-36.	... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	Page 476 line 34 to page 477 line 8.	(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to

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			<p>cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....</p> <p>...instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221....</p>	<p>Page 477 lines 8-17.</p>	
	Column 20 lines 36-37.	... and instruct control means, 226, to activate printer, 221.		<p>Page 474 lines 3-7.</p>	
(2) actuating one of a video, audio, and print storage or output device, as appropriate, to store or output said data;	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...		<p>Page 445 line 24 to page 446 line 1.</p>	<p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209, ...</p>
	Column 18 lines 19-22.	These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.		<p>Page 410 lines 10-11.</p>	<p>...instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the</p>
	Column 20 lines 36-37.	... and instruct control means, 226, to activate printer, 221.		<p>Page 474 lines 3-7.</p>	

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	<p>Column 18 lines 65-67.</p> <p>Column 19 lines 25-27.</p>	<p>... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...</p> <p>... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 426 lines 10-18.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221....</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
(3) decrypting at least a portion of said data;	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	<p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p>	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert"</p>

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		which, in a predetermined fashion, signal processor, 200, decrypts and transfers	Page 282 line 2 to page 283 line 33.	<p>control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "11111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p>
		to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	
(4) controlling a selective transfer device to communicate said data to a storage device or an output device;	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	<p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p>	<p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark;</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel</p>

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				Page 426 lines 10-18.	cable transmission that is identified by said channel mark. Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)
		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
(5) generating, a receiver specific datum on the basis of said data;		Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal

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				information should be transferred; and to transfer said signals to said apparatus.	
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...	
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...	
			Page 451 line 3.	And the Fig. 1C combining is displayed.	
			Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
(6) delivering a mass medium program at said interactive mass medium program output apparatus simultaneously with said data, and	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.	And the Fig. 1C combining is displayed.	
			Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
(7) delivering a mass medium program at said interactive mass medium program output apparatus sequentially with said data.	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.	
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."	

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84. A method of controlling a receiver station having a processor performing a first function, said method comprising the steps of:	Column 10 line 64 to column 11 line 3.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93. The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 17-27.	In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. The other path inputs the transmission of said given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.	
			Page 324 line 31 to page 325 line 2.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...	
				This base band signal is then transferred through separate paths to three separate detector devices.	
detecting one of the presence and	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.	
absence of	Column 7 lines 47-49.	Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 30 lines 29-30.	Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of	
	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they ... look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	Page 258 lines 10-19.		

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a first control signal;	Column 8 lines 58-60.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 290 lines 26-31. Page 291 lines 21-24. Page 59 lines 29-31.	decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ... In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
inputting an instruct-to-react signal to said processor	Column 8 lines 27-29.	The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3.	Page 248 line 35 to page 249 line 5.	In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.
based on said step of detecting;	Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 251 lines 3-8. Page 253 lines 10-11.	Thereafter, the embedded information ... is caused to be recorded ... in the same fashion that the embedded information of said message is detected and recorded at decoder, 203, in example #3. Finally, controller, 39J, transmits particular

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	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they ... look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	<p>Page 253 lines 19-22.</p> <p>Page 258 lines 10-19.</p>	<p>detection-complete information to controller, 20; ...</p> <p>Receiving said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 5.</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
controlling said processor to perform a second function and to output information in response to said step of inputting; and	Column 9 lines 53-57.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	<p>Page 257 line 24 to page 258 line 19.</p>	<p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>

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Language		Language		Language	
selecting data and generating a second control signal based on said step of controlling, said second control signal being effective to communicate said selected data to a storage device on the basis of said information.	Column 7 lines 65-67.	Buffer/comparator, 14, has means for identifying, according to a predetermined fashion, which signals are to be recorded.		Page 31 line 30 to page 32 line 6.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information ... organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") ... and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, ...
	Column 8 lines 44-46.	[Controller, 20] can tell buffer/comparator, 14, what and how to count, what and how to mark signals, and what received signals to discard.		Page 32 lines 20-21. Page 32 lines 10-13.	Buffer/comparator, 14, operates under control of controller, 20, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.
				For example, page 223 lines 22-33.	Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.
				For example, page 224 lines 12-16.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second

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	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.	meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ... Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...
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85. The method of claim 84, wherein a buffer is connected to said processor for buffering input, said method further comprising the step of:	Column 8 lines 7-12. Column 8 lines 20-25.	Buffer/comparator, 14, also has means for determining, in a predetermined fashion, when signals require transfer immediately to a remote site and for communicating such a requirement to controller, 20, and such signals directly with the remote site via telephone connection, 22. The signal processor apparatus also has a controller device which includes programmable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.	Page 32 lines 16-20. Page 33 lines 7-12. Page 156 line 33 to page 157 line 10.	Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer. Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22. Fig. 3A shows one such preferred controller, 39. One aspect of the preferred embodiment of controller, 39, is a series of buffers and processors at which forward error correction, protocol conversion, and the invoking of controlled functions take place in series. Buffer, 39A, and processor, 39B, are the first
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
inputting said instruct-to-react signal directly to said processor.			Page 157 line 34 to page 158 line 1.	<p>buffer and processor of the series and perform the forward error correcting functions of controller, 39. Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. Buffer, 39E, and control processor, 39J, are the third buffer and processor. All controlled functions invoked at controller, 39, by received SPAM signals are invoked at control processor, 39J.</p> <p>As Fig. 3A shows, each processor, 39B, 39D, and 39J, has associated RAM and ROM and, hence, constitutes a programmable controller in its own right.</p>
	Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 251 lines 3-8.	<p>Thereafter, the embedded information ... is caused to be recorded ... in the same fashion that the embedded information of said message is detected and recorded at decoder, 203, in example #3.</p>
	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they ... look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	Page 253 lines 10-11.	<p>Finally, controller, 39J, transmits particular detection-complete information to controller, 20; ...</p>
			Page 253 lines 19-22.	<p>Receiving said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 5.</p>
			Page 258 lines 10-19.	<p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes</p>

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			<p>oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>... information and transmit it to digital detector, 34; causing digital detector, 34, to detect the binary information of said signal information and transfer said binary information to controller, 39. Receiving said binary information at controller, 39, causes the binary SPAM information of the wireless channel 5 transmission to be checked and corrected, as necessary, at processor, 39B; converted into locally usable binary information at processor, 39D; and checked for end of file signal information at EOFs valve, 39F, and transmitted to the null output of matrix switch, 39I, until EOFs valve, 39F, detects an end of file signal. In due course, said EOFs valve, 39F, receives the aforementioned end of file signal causing said valve, 39F, to detect said signal and transmit the aforementioned interrupt signal of EOFs-signal-detected information to said control processor, 39J. Receiving said EOFs-signal-detected ...</p> <p>In due course said remote wireless station transmits the end of file signal that terminates said information segment, and the EOFs valve, 39F, of decoder, 30, receives and detects said signal, in its end of file detecting fashion, causing said valve, 39F, to transmit the aforementioned EOFs-signal-detected information to said control processor, 39J. Just as applied in the case of the 2nd command (#5), receiving said EOFs-signal-detected information causes control processor, 39J, to cause EOFs valve, 39F, to discard all information of said end of file signal; to cause said matrix switch, 39I, to cease transferring SPAM message information from said EOFs</p>
			<p>Page 254 line 23 to page 255 line 3.</p> <p>Page 259 lines 3-29.</p>

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				<p>valve, 39F, to its null output information and commence transferring SPAM message information from said valve, 39F, to said control processor, 39J; then to cause EOFs valve, 39F, to recommence processing inputted signal words in its preprogrammed fashion and transferring said words to matrix switch, 39I; and to commence waiting to receive from said switch, 39I, the binary information of a subsequent SPAM header.</p> <p>Subsequently, said remote wireless station transmits the second combining synch command of the "Wall Street Week" program. (Hereinafter, said command may be called the "3rd command (#5).")</p>
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86. The method of claim 84, wherein said processor processes a datum designating one of a television channel and a television program, said method further including one of:	Column 19 lines 17-23.	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW</p>
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Reference	Reference	Reference	Language
			<p>information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
controlling a tuner to tune a receiver to receive said one of a television channel and television program;	Column 19 lines 27-29.	<p>... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
		Page 439 lines 14-15.	
	Page 445 line 24 to page 446 line 1.	Page 446 lines 17-21.	

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a control signal detector said one of a television channel and television program;	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>with said audio ...</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...</p> <p>This base band signal is then transferred through separate paths to three separate detector devices.</p>
controlling said control signal detector to search for control signals in said one of a television channel and television program;	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows
	Column 17 lines 28-33.	... control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus	Page 318 lines 2-7.	

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controlling said selective transfer device to		Column 19 lines 27-29.	and methods.) ...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	that, instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	input to a computer said control signals detected in said one of a television channel and television program;	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,	Page 21 lines 23-24. Page 451 lines 6-7.	... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
			several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber

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		These signals instruct microcomputer, 205, ...	Page 24 lines 5-6.	station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
controlling said computer to respond to said control signals detected in said one of a television channel and television program;	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	<p>Column 19 line 60 to column 20 line 1.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 26 lines 20-28.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>

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	Reference	Language	Reference	Language
		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
controlling a television monitor to display video and audio contained in said one of a television channel and television program;	Column 19 lines 27-29.	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
controlling a video recorder to record or play video and audio contained in said one of a television channel and television program; and	Column 19 lines 23-27.	<p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said</p>
			Page 439 lines 9-15.	

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			Page 295 lines 6-8.	station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,.... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 439 lines 9-15.	
			Page 445 lines 24-27.	
			Page 446 lines 18-23.	
controlling said selective transfer device to communicate to one of a video recorder or a television monitor said one of a television channel and television program.	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	

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			Page 445 lines 24-27. instructions causes controller, 20, ... to switch power on to video recorder/player, 217, controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 18-23.	
			Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...

87. The method of claim 84, wherein said processor processes a datum designating a specific channel of a	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station
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Claim Language	Reference	Language	Reference	Support to instant specification: Language
<p>multichannel signal, said method further including one of:</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>

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controlling a tuner to tune a converter to receive said specific channel;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...
			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
			Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
			Page 439 lines 9-15.	...to cause selected apparatus of said station--cable converter box, 201, ... to

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controlling a selective transfer device to input a	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	<p>receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	<p>Page 446 lines 17-21.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>

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	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 24 lines 5-6. Page 451 lines 7-9. Page 34 line 35 to page 35 line 1.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ... This base band signal is then transferred through separate paths to three separate detector devices.
controlling said control signal detector to search for control signals in said specific channel;	Column 17 lines 28-33.	... control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.)	Page 318 lines 2-7.	By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, ...
controlling a selective transfer device to	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1. Page 446 lines 17-21.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
input to a computer said control signals detected in said specific channel;	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.

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		<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p>
	<p>controlling a computer to respond to said control signals detected in said specific channel;</p>	<p>These signals instruct microcomputer, 205, ...</p> <p>Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 21 lines 20-24.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs)</p>

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			<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p>	<p>the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
controlling a television monitor to display video and audio contained in said specific channel;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p>

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controlling a selective transfer device to communicate to at least one of a storage device and an output device said specific channel.	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p>
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
			Page 445 lines 24-27.	
			Page 446 lines 18-23.	
			Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	

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			Page 446 lines 17-21.
			In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
88. A method for identifying television programming in one of a broadcast and cablecast transmission station that has a storage device having (i) at least two storage locations each capable of storing a television signal, and (ii) a control device capable of controlling said storage device and identifying said television programming on the basis of identification information stored at said storage device, said method comprising the steps of:	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.
inputting said identification information that identifies said television programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.
			Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,
			The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
			Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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inputting said television programming to said storage device;	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
inputting said television programming to said storage device;	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to

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		designated recorder/player, 76 or 78, ...		transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
storing said television programming at a selected one of said at least two storage locations; and	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
storing said identification information with said television programming at said selected location; and	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming

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		transmissions ...	
		... monitor information that identifies what programming is available, ...	Page 28 lines 26-27.
		Meter-monitor segments contain meter information and/or monitor information.	Page 49 lines 26-27.
identifying said television programming on the basis of identification information associated in storage with said television programming.	Column 12 lines 26-29.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	Page 330 lines 5-15.
89. The method of claim 88 further comprising storing information that identifies said selected one of said at least two storage locations where said television programming is stored.	Column 12 lines 26-34.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains. (Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 lines 10-16 Page 330 line 5 to Page 331 line 3.
		Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding ...	
		Computer, 73, has... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to	

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				computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point).... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded
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90. A method for identifying television programming in a broadcast and cablecast transmission station that has storage means having a first and a second storage location, wherein said storage means is capable of holding at least two units of said television programming, and control means capable of controlling said storage means and for identifying a selected unit of television programming on the basis of identification information associated with said selected unit, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with

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inputting identification information that specifies a unit of said television programming;	Column 11 lines 38-39.	matrix switch, 75, and video recorder/players, 76 and 78. By comparing identification signals on the incoming programming ...		matrix switch, 75, and video recorders, 76 and 78, ... Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 327 line 35 to page 328 line 13.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				... monitor information that identifies what programming is available, ...
				Meter-monitor segments contain meter information and/or monitor information.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize

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		convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.		the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
inputting said unit of said television programming associated with said inputted identification information;	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
identifying said unit of said television programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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		Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 49 lines 26-27. Page 329 line 2-20.	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
storing said unit at said first storage location; and		Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	
storing said identification information at said second storage location, thereby to enable said station to identify said unit stored in the first storage location on the basis of identification information stored in said second storage location.		Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule</p>

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>91. A method for identifying and one of broadcasting and cablecasting television programming at a television transmission station, said station capable of storing and transmitting a television transmission, said television transmission comprising units of television programming and identification information identifying said units of said television programming, said method comprising the steps of:</p>	<p>Column 10 lines 15-20.</p>	<p>The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.</p>	<p>Page 324 lines 8-17.</p>	<p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.</p>

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	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7. Page 59 lines 29-33	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
inputting schedule information that identifies one of a category and a unit of said television programming;	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 lines 9-10.	... with information of the programming schedule, received earlier from input, 74, and/or network, 98, ...
	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 28-30. Page 326 lines 30-33.	<p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.</p>
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,

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			<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>		<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what</p>
locating identification information in said transmission that identifies said one of a category and a unit of said television programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what</p>	<p>Page 327 line 35 to page 328 line 13.</p>		<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what</p>

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			channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.	
			Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27.	
storing said television transmission at a first storage device;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
determining that said identification information identifies said one of a category and a unit of said television programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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				transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
transferring information of said television programming transmission to a second storage device; and	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
storing said information of said television programming at said second storage device, thereby enabling said station to broadcast and/or cablecast television programming of said one of a category and a unit of said television programming.	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its

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	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	<p>switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
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92. The method of claim 91, wherein said television transmission comprises said unit of said television programming and unit identification information that identifies said unit, said step of transferring comprising the step of:	Column 10 lines 58-60.	FIGS. 3A, 3B and 3C shows the introduction of signal processing apparatus and methods to automate these and other operations.	Page 325 lines 15-16.	Fig. 6 shows the introduction of signal processing apparatus and methods to automate these and other operations.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said

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				<p>distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addressed to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
transferring said unit of programming and said unit identification information of said television transmission to a second storage device; and	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p>	

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	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 49 lines 26-27. Page 329 line 15-16.	Meter-monitor segments contain meter information and/or monitor information. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
said step of storing comprises the step of storing said unit of programming with said unit identification information in said second storage device, thereby enabling a computer at said television transmission station to later locate and identify said stored unit of programming based upon said stored identification information.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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93. The method of claim 92, said schedule information designating one of an output channel and a time for communicating said unit of said television programming, said method further comprising the steps of:	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
identifying said unit of television programming stored in said second storage device based on unit identification information;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...

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one of broadcasting and cablecasting said unit of programming on one of the output channel and at the time designated by said schedule information.		Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
		Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
94. The method of claim 93, further comprising the step of detecting and identifying said unit of television programming being one of cablecast and broadcast by detecting and identifying said unit identification information in said television transmission being one of broadcast and cablecast.		Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
95. The method of claim 94 further comprising making a record indicating that said unit of programming was one of broadcast and cablecast.		Column 12 lines 45-56.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such	Page 337 lines 1-21.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal

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			<p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p>	<p>then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>For example, page 331 lines 17-33.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>For example, page 332 lines 23-31.</p>	<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>
			<p>For example, page 333 lines 15-21.</p>	<p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder,</p>

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			For example, page 334 lines 1-6.	76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
97. The method of claim 91 wherein said step of transferring comprises the step of transferring said unit of said television programming from said first storage device to said second storage device, and said step of storing comprises storing said unit of said television programming at said second storage device.	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of

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		<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y,</p>
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			<p>W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>
			<p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p>
			<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D</p>

For example, page 332
lines 23-31.

For example, page 333
lines 15-21.

For example, page 334
lines 1-6.

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				to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
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<p>98. The method of claim 91 wherein said step of transferring comprises the step of transferring said identification information from said first storage device to said second storage device, and said step of storing comprises the step of storing said identification information at said second storage device.</p>	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
			Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.

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	<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>
		<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically,</p>

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			computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	For example, page 333 lines 15-21. For example, page 334 lines 1-6. Page 13 lines 25-32.

99. The method of claim 91, wherein said step of locating comprises the step of:	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
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detecting said identification information in said television transmission prior to storage of said television transmission at said first storage device.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.
		Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example,	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example,

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available</p>
			For example, page 332	

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			<p>lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
<p>100. A method of communicating subscriber station information from a subscriber station to at least one remote collection station, said method comprising the steps of:</p>	<p>Column 8 lines 46-50.</p>	<p>The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.</p>	<p>Page 33 lines 18-20.</p> <p>Page 273 lines 4-6.</p> <p>Page 273 lines 21-25.</p>	<p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station.</p> <p>... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to</p>

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inputting an instruct signal which is effective at said subscriber station	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
			Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

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to select and control communication of a datum which identifies information contained in a program;	Column 3 lines 32-37.	One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instruction and information signals embedded in programing either supplied from a remote source or sources or prerecorded.	Page 451 line 3. Page 12 lines 18-24.	And the Fig. 1C combining is displayed. It is the further purpose of this invention to provide means and methods for the automation of intermediate transmission stations that receive and retransmit programming. The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast"). ... the present invention has capacity for transmitting data and control instructions in the same information stream to many different apparatus at a given subscriber station, for causing computers to generate and transmit programming. ...
	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 32 to page 15 line 2.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202.	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
detecting the presence of at least one of an instruction,	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	This base band signal is then transferred through separate paths to three separate detector devices.
	Column 6 lines 23-30.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 4-15.	Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. ... The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
code and			Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and

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datum, associated with said instruct signal, which is effective at the subscriber station to one of				the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
			Page 49 line 26 to page 50 line 20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.
generate subscriber station specific data and to select and assemble a plurality of specific and subscriber station specific data into a record;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	... monitor information that identifies what programming is available, ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 16 lines 56-61.	... and, in a predetermined fashion, create a signal string by appending digital information to the received signal which information might	Page 180 lines 1-3. Page 297 line 15. Page 180 lines 4-15.	Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming. ... creating a meter record that records the decryption.... Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record

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		identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	location, to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular preprogrammed record.... In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...
processing at the subscriber station inputted data and	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not

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		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, in the fashions described above, in the execution of SPAM controlled functions. Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its
	Column 19 lines 67 to column 20 line 2.	... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	
performing, in response to said detected instruction, one of:	Column 17 lines 12-17.	Signal divider, 139, monitors the use of signals rather than the use of programming. Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, to be handled, recorded, and transmitted to a remote site with all other monitor information.	Page 315 line 25 to page 316 line 6.	

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			Page 322 lines 19-21.	<p>associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)</p> <p>For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3</p>
	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 271 lines 33 to 35.	<p>In examples #3, ..., the transmission of SPAM signal information causes signal processor, 200, to transfer signal record information by telephone to remote station....</p>
			Page 315 lines 20-24.	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p>
			Page 44 lines 26-32.	<p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p>
				Meter-monitor segments contain meter

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		Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	<p>Page 49 line 26 to page 50 line 20.</p> <p>Page 28 lines 26-27.</p> <p>Page 14 line 35 to page 15 line 2.</p>	<p>information and/or monitor information. Examples of categories of such information include:</p> <p>... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
(a) generating said subscriber station specific data and communicating said generated subscriber station specific data to a transmitter; and	Column 16 lines 56-61.	... and, in a predetermined fashion, create a signal string	by appending digital information to the received signal which information might	<p>Page 180 lines 1-3.</p> <p>Page 297 line 15.</p> <p>Page 180 lines 4-15.</p>	<p>Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.</p> <p>...creating a meter record that records the decryption....</p> <p>Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record....</p> <p>In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record</p>
			identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	

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	Column 17 lines 6-9.	At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field... Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16. Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. ... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
	Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	Page 33 lines 18-20. Page 273 lines 4-6. Page 273 lines 21-25.	Buffer/comparator, 14, operates under control of controller, 20, ... Said match causes controller, 20, to execute
(b) selecting and assembling into said record a specific plurality of said	Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	Page 32 lines 20-21. Page 223 lines 22-33.	

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subscriber specific data and communicating said record and said selected specific plurality of said subscriber specific data to a transmitter; and			Page 224 lines 12-18.	<p>said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.</p>
	Column 17 lines 6-9.	At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	<p>Automatically, said process-monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16.</p>

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transmitting one of said communicated generated subscriber station specific data and said communicated record and specific plurality of said subscriber specific data to said at least one remote collection station.	Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	Page 33 lines 18-20. Page 273 lines 4-6. Page 273 lines 21-25.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. ... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20. Page 26 lines 4-8.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the

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			received composite video information and transmit the combined information to TV monitor, 202M.
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101. A method of processing signals at a receiver station comprising the steps of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...
receiving information transmissions;	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
detecting a plurality of instruct signals in at least one of said	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier,

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information transmissions, at least one of said detected plurality of signals being effective at said receiver station to instruct;			their associated programming and ...		63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...
	Column 4 lines 5-6.		These techniques employ signals embedded in programs.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
passing each of said detected instruct signals to a computer;	Column 11 lines 38-46.		By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
			By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original

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					transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
controlling said computer on the basis of each of said detected and passed instruct signals;	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		Page 28 lines 26-27. Page 49 lines 26-27. Page 328 lines 14-16. Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
selecting and controlling communication, under computer control and in response to at least a first of said detected	Column 12 lines 45-56.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable		Page 337 lines 1-21.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said

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and passed instruct signals, of a datum that identifies information contained in a program; and	television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs. Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.			transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs. And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.
102. The method of claim 101, further comprising one of the steps of: generating a signal to control a tuner to receive a television program	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 437 lines 1-6. Page 439 lines 9-15.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...

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in response to at least one of said detected and passed instruct signals;			Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
			Page 439 lines 9-15.	
	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to

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				<p><i>view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</i></p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
displaying a television program at a television monitor;	Column 19 lines 27-29.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 439 lines 14-15.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
inputting said information transmissions	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	<p>In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>

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to a		Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
control signal detector		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,....
				Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
in response to a command;		Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of

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storing a television program at one of a memory	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 14 lines 6-11.</p>

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and recorder;	Column 11 lines 57-64.	<p>normally tuned television set.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	Page 329 line 2-20.	<p>television picture displayed on a normally tuned television set.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
detecting and storing information evidencing	Column 12 lines 45-53.	<p>Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>	Page 337 lines 1-19.	<p>Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field</p>

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a function performed by said computer in response to at least one of said detected and passed instruct signals;	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
assembling a record of at least one of	Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	Page 32 lines 20-21. Page 223 lines 22-33.	Buffer/comparator, 14, operates under control of controller, 20, ... Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record

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			<p>Page 224 lines 12-18.</p>	<p>format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.</p>
	<p>Column 11 lines 21-31.</p>	<p>Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.</p>	<p>Page 326 line 30 to page 327 line 2.</p>	<p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p>
	<p>Column 17 lines 6-9.</p>	<p>At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.</p>	<p>Page 179 lines 14-24.</p>	<p>Automatically, said process-monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior</p>

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availability, use and usage of a television program;	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 411 lines 10-11. Page 88 lines 19-22. Page 408 lines 18-29. Page 414 lines 13-27. Page 15 lines 16-22.	programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said said record of prior programming at recorder, 16.
				In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
				Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
				Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
				The frequencies may convey television, radio, or other programming transmissions. The

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				input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 411 lines 10-15.	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
		for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV

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		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p>	<p>Page 173 line 30 to page 174 line 23 from example #3.</p>	<p>set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect</p>

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			Page 397 lines 17-20.	statistical data on programming availability and usage. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
logging the transmission of a television program to said receiver station; and	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
transmitting stored evidence information to a remote data collection station.	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.

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103. A method of controlling a remote intermediate mass medium program transmitter station	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 324 lines 18-21.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ... Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
to communicate mass medium program material	Column 10 lines 24-28. Column 11 lines 50-57.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. ... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to

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to a remote receiver station and		Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
	controlling said remote receiver station to deliver an individualized mass medium program presentation, said method of controlling comprising the steps of:	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 396 lines 8-10. Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that

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			<p>subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Page 26 lines 4-11.</p>	<p>subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
receiving mass medium programming	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	<p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p>

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to be transmitted by said remote intermediate mass medium transmitter station and	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable- WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205,</p>

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delivering said mass medium programming to a transmitter;	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 439 lines 14-15.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p>	<p>contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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receiving at least one instruct signal at said remote intermediate mass medium transmitter station, wherein said at least one instruct signal operates at said remote receiver station		Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
to select and control a communication of a datum which identifies information contained in said mass medium programming, and communicating said at least one instruct signal to said transmitter;		Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			... to generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
			... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video

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	Column 19 lines 64-66.	<p>... transmit these overlays to TV set, 202,...</p> <p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...</p>	<p>Page 26 lines 4-8.</p> <p>Page 26 lines 1-8.</p>	<p>image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
<p>receiving at least one control signal at said remote intermediate mass medium transmitter station, said at least one control signal operates at said remote intermediate mass medium transmitter station to</p>	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate</p>

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control communication of one of said mass medium programming and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 328 line 22 to page 329 line 1.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that</p>
said at least one instruct signal; and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to	<p>Page 328 line 22 to page 329 line 1.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that</p>

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	Column 19 lines 43-44.	transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. ... instruction signals embedded in the "Wall Street Week" programming transmission.
transmitting from said remote intermediate mass medium transmitter section an information transmission comprising said mass medium programming and said at least one instruct signal, said mass medium programming and said at least one instruct signal transmitted	Column 11 lines 50-57. Column 19 lines 20-23.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is	Page 328 line 22 to page 329 line 1. Page 267 lines 20-28 from example #5.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5)

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		being televised on channel X.	<p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"</p>

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in accordance with said at least one control signal.				<p><i>program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in</p>
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 439 lines 14-15. Page 21 lines 23-24.	
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	
			Page 84 lines 26-28.	

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	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 22-31.</p>	<p>television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.</p>
104. A method of controlling a remote transmitter station to deliver a receiver specific mass medium program presentation at a receiver station, said method of communicating	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Page 328 lines 9-13.</p> <p>Page 326 lines 28-30.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p>

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comprising the steps of:	Reference	Reference	Language
	<p>a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.</p> <p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,</p> <p>instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form</p>	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....</p>	<p>Page 476 line 34 to Page 477 line 8.</p> <p>Page 477 lines 8-17.</p>

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	Reference	Language	Reference
remote transmitter station		received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
at least one instruct signal which operates to	Column 20 line 27.	Five minutes later, ...	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
select and control communication of one of a code and datum which identifies information contained in said mass medium program;	Column 20 lines 31-36.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of an "01" header, particular execution segment information that is identical to said covert control information, appropriate meter-monitor information including unit code identification information that identifies the programming of the information segment of said message, padding bits as required, information segment of particular generate-recipe-and-shopping-list instructions, and an end of file signal.

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receiving a control signal which operates at said remote transmitter station to control communication of at least one instruct signal and	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 473 lines 29-31.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...
communicating said control signal to said remote transmitter station;	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 lines 9-13. Page 326 lines 28-30. Page 328 lines 9-10. Page 326 lines 28-30.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. ... with information of the programming schedule, received earlier from input, 74, and/or network, 98, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
receiving said one of a code and	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...

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	Reference	Language	Reference	Language
<p>a datum</p> <p>designating a specific instruct signal of said at least one instruct signal to be transmitted by said remote transmitter station, and said remote transmitter station</p>	Column 2 lines 63-66.	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p>	Page 14 lines 27-29.	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p>
	Column 3 lines 6-8.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	Page 14 line 35 to page 15 line 2.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
	Column 11 lines 38-39.	<p>By comparing identification signals on the incoming programming ...</p>	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
			Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>

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transferring said designated specific instruct signal to a transmitter; and		Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
transmitting from said remote transmitter station an information transmission comprising		Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programing to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programing transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programing transmissions to signal processor, 96, ...
said mass medium program and said designated specific instruct signal, said designated specific instruct signal being		Column 20 lines 27-29.	... a signal is identified in the incoming programing on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
transmitted at one of		Column 11 lines 18-21.	The controller/computer, 73, has means for	Page 326 lines 27-30.	Computer, 73, has means for receiving input

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specific times and on specific channels.		Column 11 lines 28-31.	receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.		information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
		Column 11 lines 41-43.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93. ... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 326 line 33 to page 327 line 2. Page 328 lines 11-13.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
105. A method of controlling at least	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	
	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
one of a plurality of	Column 3 lines 48-51.	Another method has application at receiver	Page 12 lines 30-35.	It is the further purpose of this invention to	

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receiver stations each of which includes		sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.		provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
a television receiver,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 470 lines 1-3 and Page 470 lines 9-12.	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is ...
a signal detector,	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 470 lines 19-21.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
at least one of a computer and processor, wherein	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 471 line 35 to page 472 line 1. Page 472 lines 4-12. Page 37 line 26 to page 38 line 8.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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each of said plurality of receiver stations is adapted to detect the presence of at least one control signal and	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p>
to input a subscriber reaction to a specific offer communicated in a television program, said method comprising the steps of:	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	<p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where</p>

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receiving at least one of a code and	Column 10 lines 61-64.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
a datum at a transmitter station, wherein said one of a code and a datum	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
designates at least one of a product and a service offered in said television program and said subscriber reaction;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 20 lines 49-54.	Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received.	Page 473 line 29 to page 474 line 1	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.

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receiving said at least one control signal at said transmitter station, said at least one control signal at said at least one of said plurality of receiver stations operates to				Page 314 line 30-33.	At printer, 221, is other decoder, 227. At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.
	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.		Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 4 lines 5-6. Column 20 lines 27-31.	These techniques employ signals embedded in programs. Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...		Page 13 lines 25-26. Page 471 line 26 to page 472 line 17.	The present invention employs signals embedded in programming. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes

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select and control communication of information at least one of received with and to be associated with said television program;	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	<p>Page 471 line 26 to page 472 line 17.</p> <p>476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal</p>

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			Page 474 lines 3-7.	<p>processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p>
<p>transferring at least one of (i) said at least one of a code and a datum and (ii) said at least one control signal to a transmitter at said transmitter station</p>	<p>Column 11 lines 50-57.</p>	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	<p>Page 328 line 22 to page 329 line 1.</p>	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>The present invention employs signals embedded in programming.</p>

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at a specific time; and	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Five minutes later, ...	Page 14 lines 27-29. Page 14 line 35 to page 15 line 2. Page 471 lines 26-28.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
	Column 3 lines 6-8. Column 20 line 27.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ... These techniques employ signals embedded in programs.	Page 337 lines 1-8. Page 13 lines 25-26. Page 14 lines 27-29.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ... The present invention employs signals embedded in programming.
	Column 12 lines 45-47. Column 4 lines 5-6. Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.

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		Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...
106. A method of communicating television program material to		Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
		Column 10 lines 20-23.	[The signal process apparatus outlined in Figs. 1A, 2B, and 2C, and their variants as appropriate] can be used in a facility transmitting television programming, radio	Page 324 lines 12-14.	... stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium

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at least one receiver station including	Column 17 lines 47-53.	programming, and making other electronic transmissions. FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	programming ... Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
one of a broadcast and cablecast television receiver,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 470 lines 1-3 and Page 470 lines 9-12.	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is ...
a television monitor,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 470 lines 19-21. Page 470 lines 1-3 and Page 470 lines 9-12.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M. ...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is

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a control signal detector,	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 470 lines 19-21. to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 471 line 35 to page 472 line 1. Page 472 lines 4-12.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20.
a processor operatively connected to			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 20 lines 27-31.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes
said television monitor,				

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said processor programmed to detect and respond to	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	<p>Page 15 lines 16-23.</p> <p>controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>Page 34 lines 24-26.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Page 95 lines 18-21.</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p>	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...</p> <p>The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.</p>
at least one instruct signal in one of	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
a broadcast and cablecast transmission, said method comprising the steps of:	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
	Column 6 lines 26-30.	As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 11-15.	

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receiving a television program at a transmitter station and delivering said television program to a transmitter;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.	Page 324 lines 23-31.	
	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.	Page 328 line 22 to page 329 line 1.	
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.	Page 325 lines 6-9.	

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<p>receiving said at least one instruct signal at said transmitter station, said at least one instruct signal</p> <p>at said at least one receiver station operates to select and control communication of a datum which identifies information contained in said television program;</p>	<p>Column 10 lines 30-39.</p> <p>Column 20 lines 27-29.</p> <p>Column 20 lines 33-36.</p>	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...</p> <p>... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...</p>	<p>Page 324 lines 23-31.</p> <p>Page 471 line 35 to page 472 line 1.</p> <p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of</p>

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		to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
transferring said at least one instruct signal from said transmitter station to a transmitter; and	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. ... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 324 line 31 to page 325 line 4. 	

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one instruct signal from said transmitter station to said at least one receiver station.	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
107. A method of communicating programming in a communications network, said communications network including at least one origination station and	Column 10 lines 24-28. Column 10 lines 30-39. Column 19 lines 60-62.	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p> <p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming ...</p>	<p>Page 324 lines 18-21.</p> <p>Page 324 lines 23-31.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as</p>	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch</p>

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an intermediate transmission station,	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
said intermediate transmission station having a transmitter,	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
at least one selective transfer device operatively connected to said transmitter for transferring programming,	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
an automatic control unit operatively connected to said at least one selective transfer device,	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, ...
a first detector operatively connected to said automatic control unit for detecting first signals,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
			Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said

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a receiver operatively connected to said first detector,		Column 10 lines 61-63.		Page 59 lines 29-33	distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addressed to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
a second detector operatively connected to said transmitter for detecting second signals,		Column 12 lines 45-47.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
and a logging unit operatively connected to said second detector,		Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
			Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field

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said method comprising the steps of:		signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
	transmitting from said origination stations said programming, said programming including at least one signal for comparison;	<p>Column 8 lines 20-25.</p> <p>The signal processor apparatus also has a controller device which includes programmable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.</p> <p>Buffer/comparator, 14, has the capacity to pass received time signals to the controller, 20, in a predetermined fashion set by and changeable by controller, 20.</p> <p>Column 8 lines 65-68.</p>	<p>Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22.</p> <p>(In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at</p>

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				buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, ...
			For example, page 179 lines 24-32.	Automatically, under control of said process-monitor-info instructions, onboard controller, transmits to controller, 20, a particular preprogrammed instruct-to-record instruction that causes controller, 20, to cause onboard controller, 14A, to transmit the monitor record of said prior programming to recorder, 16, in a predetermined fashion and that causes controller, 20, to cause recorder, 16, to record said monitor record information in a predetermined fashion.
	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	Page 33 lines 18-21.	... is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any ...
			For example, page 300 line 32 to page 301 line 1.	... program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions ...
			with respect to Page 301 lines 6-11.	At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, ...
	Column 9 lines 65-68.	[Controller, 20] instructs processor or monitor, 12, how to identify what signals to	Page 149 lines 8-16.	Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to

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	<p>pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.</p>	<p>controller, 12, a particular <i>transfer-decrypted-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key.</p> <p>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer- and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.</p> <p>Under control of <i>said transfer-and-meter instructions</i>, controller, 12, commences receiving decrypted information of the second message from decryptor, 10.</p> <p>Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.</p> <p>Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of <i>said transfer-and-meter instructions</i>, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd</p>
		<p>Page 150 lines 7-9.</p> <p>Page 150 lines 16-21.</p> <p>Page 152 line 18 to page 153 line 1.</p>

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	Column 10 lines 4-8.	The controller, 20, also controls the automatic telephone dialing device, 24, which can automatically output the digital information on the digital recorder, 12, to a remote site through a telephone connection, 22.	<p>Page 273 lines 6-11.</p> <p>meter information (#2).")</p> <p>Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications.</p> <p>... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.</p>	
transmitting at least one retransmission control signal from said origination stations;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programing schedule ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming</p>	
			Page 84 lines 26-28.	

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			<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>said intermediate transmission station receiving said programming; detecting and passing to said automatic control unit said at least one retransmission control signal; and</p>	<p>Column 11 lines 50-57.</p>	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	<p>Page 328 line 22 to page 329 line 1.</p>	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
	<p>Column 10 lines 61-63.</p>	<p>Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.</p>	<p>Page 324 lines 23-31.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>

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Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
Column 9 lines 47-57.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	Page 248 line 17 to page 249 line 5.	Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.
		Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ... Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.
	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.

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		<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.</p>	<p>pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchron command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>Page 265 line 27 to Page 266 line 21.</p> <p>Page 250 lines 13-17.</p> <p>Page 251 lines 8-11.</p>
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			Page 263 lines 19-24.	... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what

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said automatic control unit performing the step of selectively transferring said programming to said transmitter in accordance with said at least one retransmission control signal.				programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 49 lines 26-27. Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with

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			information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.
			Page 28 lines 26-27.
			Page 49 lines 26-27.

108. A method of controlling	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
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a network having a remote intermediate transmitter station	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
and at least one receiver station,	Column 6 lines 13-15.	FIGS. 6F and 6G comprise a block diagram of signal processor apparatus and methods as they might be used at a consumer receiver site.	Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
with said remote intermediate transmitter station including at least one intermediate transmitter for transmitting a signal,	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
			Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
			Page 18 lines 16-17	Fig. 7 is a block diagram of signal processing apparatus and methods at an ultimate receiver station.
			Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
			Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, ...

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<p>for communicating said signal,</p> <p>a receiver for receiving said signal from outside said network,</p>	<p>Column 10 lines 30-39.</p>	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>By comparing identification signals on the incoming programming with the programming schedule ...</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>
<p>an instruction detector,</p>	<p>Column 11 lines 38-39.</p>	<p>Page 324 lines 23-31.</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>

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and a controller capable of controlling at least one of said plurality of selective transfer devices,	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...	
and with said remote intermediate transmitter station adapted to (1) detect at least one instruction, (2) control communication of at least one signal in response to said at least one instruction, and	Column 11 lines 38-57.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 49 lines 26-27. Page 328 lines 14-16. Page 327 line 35 to page 328 line 13.	Meter-monitor segments contain meter information and/or monitor information. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....	
			Page 84 lines 26-28.	...monitor information that identifies what programming is available, ...	
			Page 28 lines 26-27.		

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(3) deliver said at least one signal to said at least one intermediate transmitter, said method comprising the steps of:	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to	<p>Page 49 lines 26-27.</p> <p>Page 328 line 14 to page 329 line 1.</p> <p>Page 328 line 22 to page 329 line 1.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.</p> <p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that</p>

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		transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		said "code" information matches particular programmed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
receiving said signal outside said network,	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 22 lines 1-6.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205. ... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.

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said signal having at least one first instruction which is operative in said network	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
			Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter

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	<p>Column 11 lines 57-64.</p>	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned</p>
to output said signal from a first storage location and	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 328 lines 14-16.
store said signal at a second storage location;	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 329 line 2-20.</p> <p>Page 325 lines 6-9.</p> <p>Page 436 line 9 to page 437 line 6.</p>

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p>	<p>determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p>

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		and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 446 lines 18-23. controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
receiving at least one second instruction outside said network, said at least one second instruction operative at said remote intermediate transmitter station to control communication of said signal; and	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...

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	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.
transmitting said signal and said at least one second instruction to said network	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.
		Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	
		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.	
		Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,	Page 327 line 35 to page 328 line 13.

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before a specific time.	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27. Page 26 lines 8-11.	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>

109. The method of claim 108, wherein television programming is communicated to and stored at said second storage location based on one of said at least one first instruction and	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
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said at least one second instruction, said method further comprising the step of:	Reference	Language	Reference
		<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87</p>

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 324 lines 18-21.</p>	<p>respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>
	<p>Column 10 lines 24-28.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of</p>		

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	Column 11 lines 15-17.	television programming. Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.

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transmitting said television programming to one of said remote intermediate transmitter station and said at least one receiver station.	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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	Column 19 lines 12-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 288 lines 13-20.</p> <p>Page 445 lines 8-10.</p> <p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p>

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			<p>Page 250 lines 13-16.</p> <p>Page 252 lines 15-35.</p> <p>Page 267 lines 20-28.</p>	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they</p>

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			<p>program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>	
			Page 439 lines 14-15.	

<p>110. The method of claim 108, wherein said network communicates at least one of a television transmission and a radio transmission, said method further comprising the step of embedding said signal in one of a non-visible portion of said television transmission and a non-audible portion of one of said television and said radio transmission.</p>	Column 4 lines 18-25.	<p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p>	Page 14 lines 6-14.	<p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p>
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111. The method of claim 110, wherein said station stores at least a portion of said at least one of a television transmission and a radio transmission based on said signal.	Column 19 lines 1-4.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
	Column 18 lines 58-62.	Page 422 line 23 to page 423 line 10.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
		Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said

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				microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
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112. The method of claim 110, wherein said signal contains one of a code and	Column 15 lines 57-62.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
			Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
			Page 49 line 26 to Page 50 line 4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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a datum which identifies information contained in said at least one of a television transmission and a radio transmission, said method further comprising the steps of:	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	<p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment)</p> <p>then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if</p>

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processing said one of a code and a datum; and				Page 267 lines 20-28 from example #5.	said program is of interest, ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
		Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what

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transmitting said signal based on said step of processing.			<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 326 lines 28-30.</p>	<p>programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p>
	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>Page 84 lines 26-28.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			<p>Page 28 lines 26-27.</p>	<p>... monitor information that identifies what programming is available, ...</p>
			<p>Page 49 lines 26-27.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p>

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		Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
				Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
113. The method of claim 110, further comprising the step of comparing at least some of said at least one first instruction to at least a portion of said at least one second instruction.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in

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			television or radio or other programming transmissions....
			... monitor information that identifies what programming is available, ...
			Meter-monitor segments contain meter information and/or monitor information.

114. The method of claim 110, wherein said step of embedding is performed	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and page 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
before at least a portion of said signal is transmitted to said remote intermediate	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 line 67 to column 20 line 5.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the

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transmitter station.		<p>graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p>
		<p>studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.</p>	
115. The method of claim 108, wherein said signal contains one of television and radio programming, said method further comprising the step of: embedding said at least one first instruction and said at least one second instruction in one of a non-visible and a non-audible portion of said signal.	Column 4 lines 18-25.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 6-14.
116. The method of claim 115, wherein said step of embedding is performed	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.
		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The	

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<p>before at least a portion of said signal is transmitted to said remote intermediate transmitter station.</p>	<p>Column 19 lines 43-44.</p> <p>Column 19 line 67 to column 20 line 5.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 21 lines 23-24.</p> <p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p>	<p>information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received</p>

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					composite video and to commence transmitting the received composite video transmission unmodified.
117. The method of claim 108, wherein downloadable code containing one of said at least one first instruction and said at least one second instruction is assembled in said network, said method further having one step from the group consisting of:	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.	
	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 32 to page 15 line 2.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.	
	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 37 lines 22 to page 38 line 10.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and

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transmitting one of said			<p>Page 156 line 33.</p> <p>Page 157 lines 5-7.</p> <p>Page 14 lines 22-25.</p>	<p>process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p>
	Column 4 lines 36-46.	In addition, the pattern of the composition,	Page 13 lines 19-24.	[The means and methods of this invention]

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at least one first instruction and said at least one second instruction in a plurality of signal words; and		<p>timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.</p>	<p>also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A</p>
			<p>Page 14 lines 13-25.</p> <p>Page 60 line 19 to page 61 line 1.</p>

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Language	Language	Language
	<p>Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...</p>	<p>Page 91 lines 18-20.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p> <p>Page 451 lines 7-9.</p>
<p>Column 19 lines 45-49.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...</p>	

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	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
transmitting at least two first instructions and said at least one second instruction to said network at different times.	Column 4 lines 36-46.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.	Page 13 lines 19-24. Page 14 lines 13-25.	[The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming

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			<p>and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p>
			<p>Page 60 line 19 to page 61 line 1.</p>
			<p>Page 91 lines 18-20.</p>
Column 19 lines 45-49.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p>	<p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program</p>

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		microcomputer, 205 ...		originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...

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			page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	
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118. The method of claim 108, wherein data is one of assembled and communicated in said network based on said at least one first instruction and said at least one second instruction, said method further having one step from the group consisting of:	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 32 to page 15 line 2.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73. The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that

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			subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
		Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
		Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.
		Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.

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transmitting one of a code and a datum which is operative in said network to designate one of an information and a signal type to be one of assembled and communicated; and	<p>Column 19 lines 60-63.</p> <p>Column 2 line 63 to column 3 line 3.</p> <p>Column 7 lines 37-39.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p> <p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 14 lines 26-32.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37,</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
transmitting one of a code and a datum which one of designates and identifies said data.	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	<p>38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and page 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 14 lines 26-32.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate,</p>

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				incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
			Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
			Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.
			Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
119. The method of claim 118, wherein said data one of are transmitted from said remote intermediate transmitter station and	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on

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include downloadable code.	Column 11 lines 3-14.	and/or the industries.	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ...</p> <p>Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.</p>	Page 325 line 34 to page 326 line 11.	<p>digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station ...</p>
				Page 326 lines 16-18.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.</p> <p>Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.</p>
120. The method of claim 118, wherein a control signal is organized and operates in said network to one	Column 18 lines 58-62.	Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 23 to page 423 line 10.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.	In due course, one instance of said Select-

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of designate and	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to</p>

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identify one of a location of one of said signal and said data and a source communicating one of said signal and said data.	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	<p>Page 156 line 33.</p> <p>Page 157 lines 5-7.</p> <p>Page 14 lines 22-25.</p> <p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p>	<p>correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ...</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated</p>

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				cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
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121. The method of claim 118, wherein said at least one first instruction includes said one of a code and a datum.	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming

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			transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
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122. The method of claim 118, wherein said at least one second instruction includes said one of a code and a datum, said method further comprising the step of:	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27. Page 49 lines 26-27.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.

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	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
transmitting a third instruction which is operative in said network to instruct comparison.	Column 11 lines 39-41.	... received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 line 10.	... received earlier from input, 74, and/or network, 98, computer, 73, ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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		Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	<p>Page 49 lines 26-27.</p> <p>Page 330 line 5 to Page 331 line 3.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...</p>
123. The method of claim 108, wherein said specific time is a scheduled time of transmitting		Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

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	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to

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said signal from said remote intermediate transmitter station.	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	field distribution system, 93, via cable channel modulator, 87. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
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124. The method of claim 108, wherein said plurality of selective transfer devices include a switch and a storage device, said method comprising the steps of:	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
transmitting at least one switch control instruction; and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;
			Page 59 lines 29-33	A SPAM message is the modality whereby the

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted	Page 328 line 31 to page 329 line 1.	In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer

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		from TV receiver, 53, to the output that leads to modulator, 87.		the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
transmitting at least one storage control instruction.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a

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				predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... to cause said selected recorder, 76 or 78, to turn on and record programming. ...
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 329 line 15-16.	
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		
125. The method of claim 108, wherein said plurality of selective transfer devices include a computer and a computer peripheral memory, said computer capable of communicating to a plurality of devices, said memory capable of storing said signal, said method further comprising the steps of:	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder,

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transmitting at least one communication control instruction; and				76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 332 lines 24-30.</p> <p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p>	<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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transmitting at least one storage control instruction.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from	For example, page 332 lines 23-31.	modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 333 lines 15-21.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 334 lines 1-6.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier,

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		their associated programming and ...		63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y,

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				W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
	controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to

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			<p>move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>

126. The method of claim 108, wherein said instruction comprises one of a code and a datum which operates at said remote intermediate transmitter station to identify said signal, said method further comprising the step of:	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.)	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.)
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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
transmitting a schedule which operates at said remote intermediate transmitter station to communicate said signal to a separate transmitter.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 22 to page 329 line 1.</p>	<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs</p>

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					to modulator, 87.
<p>127. The method of claim 126, wherein said schedule controls communication of a plurality of signals</p> <p>of one of television, radio, data, and multimedia programming, said method further having at least one step from the group consisting of:</p>	Column 11 lines 18-31.	<p>The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.</p>	Page 326 line 27 to page 327 line 2.	<p>Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p>	
	Column 12 lines 57-64.	<p>This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.</p>	Page 339 lines 9-26.	<p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast</p>	

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	Column 19 lines 31-34.	FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data</p>
	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing	Page 449 lines 13-35.	

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			stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.		applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.		Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
transmitting at least one of said plurality of signals of one of television, radio, data, and multimedia programming;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.		Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the

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	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is

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	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	<p>displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p>
transmitting one of a code and a datum which designates at least one of said plurality of signals of one of television, radio, data, and multimedia programming;	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	<p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Each remote station transmits each</p>

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	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A stationcause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26 from example #5.	Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35	Then, in a predetermined fashion, control

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			<p>processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment)</p> <p>then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p>
		from example #5.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
		Page 267 lines 20-28 from example #5.	
		Page 315 lines 20-24.	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every</p>
		The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of	
		Column 15 lines 57-62.	

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		each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 44 lines 26-32.	unencrypted SPAM message in the transmission to which its associated apparatus is tuned. Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times ...
	Column 15 lines 63-68.	In the case of data transmitted to the micro-computer, they may be unique codes that identify the source and suppliers of the data. In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertisements, etc.	Page 28 lines 26-27. Page 49 lines 26-28. Page 50 lines 19-20. Page 425 lines 35 to page 426 line 1. Page 421 lines 13-15.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:.... ... unique codes that identify the sources and suppliers of computer data. ... and causes said A T&T news item to be printed at said printer, 221. ... meter-monitor segment that contains the

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transmitting a fourth instruction which is operative in said network to output at least one of said plurality of signals of one of television, radio, data, and		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...		"program unit identification code" information of said A T&T news item and subject matter information of said binary information of "T",
				Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
				Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
		Column 11 lines 15-17. Column 11 lines 38-39.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility. By comparing identification signals on the incoming programming with the programming schedule ...	Page 326 lines 19-20. Page 327 line 35 to page 328 line 13.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with

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				information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...

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	to reorganize the order in which programming units are stored on either recorder/player or on both,	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87</p>
		<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>
	<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	

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multimedia programming from a storage location; and	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 18 lines 24-27.</p>	<p>respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p>

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			page 450 line 27 to page 451 line 11.	<p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard ... to correct errors</p>
	Column 19 line 60 to column 20 line 7.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p> <p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 33 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	

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				in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.		Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, and prepares to send the next locally generated graphic overlay upon instruction from the originating studio.		Page 451 line 3.	And the Fig. 1C combining is displayed.
			Page 26 line 33 to page 27 line 9.	As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence

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transmitting a fifth instruction which is operative in said network to store at least one of said plurality of signals of one of television, radio, data, and	Column 18 lines 48-55.	<p>transmitting the received composite video transmission unmodified. Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio-- eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
		<p>Page 451 line 22 to page 452 line 5.</p>
transmitting a fifth instruction which is operative in said network to store at least one of said plurality of signals of one of television, radio, data, and	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	<p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and</p>
	Page 420 line 21 to page 421 line 7.	

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	Column 18 lines 58-67.	Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	<p>Page 422 line 23 to page 423 line 13.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>201, and to signal processor, 200.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message</p> <p>In due course, said remote news-service-A station ...</p> <p>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.</p> <p>In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands</p>

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			<p>are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then</p>
		Page 424 lines 3-9.	
		Page 435 lines 16-25.	
		Page 437 lines 1-6.	
		Page 426 lines 10-18.	

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		begins at 8:30 PM on a Friday evening, ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8.	begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205,	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."
		to generate several graphic video overlays,	Page 451 lines 7-11.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.

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	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating composite graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
	transmit these overlays to TV set, 202,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	upon command.	Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
		Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)

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128. The method of claim 126, wherein said schedule operates at said remote intermediate transmitter station to communicate said signal to one of a plurality of transmitters and said separate transmitter a plurality of times.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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129. The method of claim 108, wherein said second storage location is at said at least one receiver station, said method further having one step from the group consisting of:	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T & T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T & T news item.)
transmitting a sixth instruction which is operative to select one of said first storage location and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the

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	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.

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said second storage location; and	Column 11 lines 57-61.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 line 2-15.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ...
	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
			Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205,

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	<p>Column 18 lines 62-67.</p> <p>In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.</p>	<p>In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.</p> <p>In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.</p>	<p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p> <p>Page 426 lines 10-18.</p> <p>Page 419 line 34 to page 420 line 2.</p> <p>Page 11 lines 5-10.</p>	<p>and to transfer said message to microcomputer, 205.</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark;</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct</p>

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transmitting a seventh instruction which is operative to designate said at least one receiver station to store said signal.	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23. Page 34 lines 24-26. Page 44 lines 14-15. Page 95 lines 18-21. Page 423 lines 11-13. Page 424 lines 2-9.	or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ... A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205. Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said
	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.		

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	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 426 lines 10-18. Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	channel mark. Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T & T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T & T news item.) Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
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130. A method of controlling	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor
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		recorder/players, 76 and 78.		information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
a network having a remote intermediate transmitter station and	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
at least one receiver station,	Column 6 lines 13-15.	FIGS. 6F and 6G comprise a block diagram of signal processor apparatus and methods as they might be used at a consumer receiver site.	Page 18 lines 16-17	Fig. 7 is a block diagram of signal processing apparatus and methods at an ultimate receiver station.
with said remote intermediate transmitter station including at	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus

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<p>least one intermediate transmitter for transmitting at least one signal,</p> <p>a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter for communicating said at least one signal,</p> <p>a receiver for receiving said at least one signal from outside said network,</p>	<p>Column 10 lines 41-42.</p> <p>Column 10 lines 30-39.</p>	<p>equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p> <p>... connect, by means of conventional switches (here matrix switch, 75), to ...</p> <p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>By comparing identification signals on the incoming programming with the programming schedule ...</p>	<p>Page 324 line 34.</p> <p>Page 324 lines 23-31.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p> <p>... a conventional matrix switch, 75, well known in the art, ...</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a</p>

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<p>and a controller capable of controlling at least one of said plurality of selective transfer devices, and</p> <p>with said remote intermediate transmitter station receiving said at least one signal, at least one first instruction, and at least one second instruction, said method comprising the steps of:</p>	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 84 lines 26-28.	<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,</p>
	Column 11 lines 38-57.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM mark information, information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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	<p>receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>...monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.</p> <p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to</p>
		<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 14 to page 329 line 1.</p>

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	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 22 to page 329 line 1.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available; ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
programming said remote intermediate transmitter station to detect said at least one first instruction and said at least one second instruction; and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said</p>

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	<p>Column 9 lines 33-40.</p> <p>Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.</p>	<p>Figs. 2A-2C. Page 35 lines 1-6.</p> <p>Page 35 lines 16-18.</p> <p>Page 35 lines 27-30.</p> <p>Page 36 lines 1-3.</p> <p>Page 36 lines 18-20.</p> <p>Page 37 lines 26-28.</p>	<p>transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p> <p><i>See figures.</i></p> <p>The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.</p> <p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p> <p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p> <p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 49 lines 26-27.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	
programming said network to detect and respond to an instruction which is	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73,

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<p>operative in said network to output said at least one signal from a first storage location and store said at least one signal at a second storage location before a specific time.</p>		<p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p>	<p>then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>For example, page 331 lines 17-33.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>For example, page 332 lines 23-31.</p>	<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>
			<p>For example, page 333 lines 15-21.</p>	<p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder,</p>

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	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>For example, page 334 lines 1-6.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>
			Page 84 lines 26-28.	<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>
			Page 28 lines 26-27.	<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>
			Page 49 lines 26-27.	<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>

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				information and/or monitor information.
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131. The method of claim 130, wherein television programming is communicated to and stored at one of said first storage location and said second storage location based on one of said at least one first instruction and said at least one second instruction, said method further comprising the step of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution

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	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p>	<p>amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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programming one of said remote intermediate transmitter station and said at least one receiver station to store television programming at a storage location in response to one of said at least one first instruction and said at least one second instruction received from a remote station.	Column 11 lines 18-31.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 27 to page 327 line 2.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, to instruct the switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution

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	<p>Column 9 lines 47-57.</p> <p>The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.</p>	<p>Page 248 line 17 to page 249 line 5.</p> <p>Page 257 line 24 to page 258 line 19.</p> <p>Page 257 line 24 to page 258 line 19.</p>	<p>amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause</p>

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	<p>to receive a particular frequency at a particular time interval.</p>	<p>the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first</p>	<p>Page 265 line 27 to Page 266 line 21.</p> <p>Page 250 lines 13-17.</p> <p>Page 251 lines 8-11.</p>
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			<p>command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p>
			<p>Page 263 lines 19-24.</p>
			<p>Page 37 lines 26-28.</p>

132. The method of claim 130, further comprising the step of: programming one of said remote intermediate transmitter station and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and ...	<p>Page 325 line 34 to page 326 line 7.</p>
			<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
said at least one receiver station to	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the	<p>Page 420 line 21 to page 421 line 7.</p>
			<p>Two remote stations--remote news-service-A station and remote news-service-B</p>

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<p>detect one of said at least one first instruction and said at least one second instruction embedded in one of a non-visible portion of a television transmission and a non-audible portion of a radio transmission.</p>	<p>Column 9 lines 33-40.</p>	<p>multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.</p>		<p>station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station ...</p>	
		<p>Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.</p>		<p><i>See figures.</i></p> <p>The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.</p> <p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p>	
				<p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p>	
				<p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects</p>	

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		Column 4 lines 18-26.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 37 lines 26-28. Page 14 lines 6-15.	and processes signal information embedded in a frequency other than a television or radio frequency. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.
133. The method of claim 132, wherein said station stores at least a portion of one of said television and said radio transmission based on said at least one signal, said method further comprising the step of:	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in

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		channel identifier, in this illustration, to microcomputer, 205.	<p>the fashion of example #5.</p> <p>In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p> <p>All eight of said messages are commands.</p> <p>The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>the fashion of example #5.</p> <p>In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p> <p>All eight of said messages are commands.</p> <p>The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
programming said at least one receiver station to select said at least a portion of one of said television transmission and said radio transmission by processing stored subscriber data.	Column 18 lines 46-48.	... microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 3-6.	<p>The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.</p>
	Column 18 lines 55-58.	... microcomputer, 205, instructs signal processor, 200, to hold examples of the	Page 288 lines 13-20.	As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also

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		<p>sought for unique signals in its buffer/comparator, 8, and compare them with all incoming signals.</p>	<p>Page 420 lines 6-20.</p>	<p>automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ...</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel</p>
	<p>Column 18 lines 62-65.</p>	<p>In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...</p>	<p>Page 422 lines 33 to Page 423 line 4.</p> <p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p>	

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				cable transmission that is identified by said channel mark.
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<p>134. The method of claim 132, wherein said at least one signal contains one of a code and a datum</p> <p>which identifies information contained in one of said television transmission and said radio transmission, said method further comprising the steps of:</p>	Column 2 line 63 to column 3 line 3.	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>By comparing identification signals on the incoming programming with the programming schedule ...</p>	Page 14 lines 26-32.	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
	Column 11 lines 38-39.		Page 327 line 35 to page 328 line 13.	
			Page 84 lines 26-28.	

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	Reference	Language	Reference	Language
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 28 lines 26-27. Page 49 lines 26-27. Page 339 lines 11-23.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 18 lines 52-55.	The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit- News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.
	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification Reference	Language
programming one of said remote intermediate transmitter station and said at least one receiver station to process said one of a code and a datum; and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	<p>"programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p>
	Column 8 lines 35-37.	[Controller, 20] can instruct buffer/comparator, 8, how to assemble signal words into signal units and join units together for further transfer and ...	Page 33 lines 18-20. Page 37 line 31 to page 38 line 3.	<p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ...</p>
	Page 39 lines 16-21.			<p>Controller, 20, has capacity to preprogram (or reprogram) all said decoder apparatus, 27, 28, 29, 30, and 40, and thereby controls the fashions of detecting, correcting, converting.</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	Column 9 lines 47-57.	<p>The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.</p>	<p>Page 248 line 17 to page 249 line 5.</p> <p>Page 257 line 24 to page 258 line 19.</p> <p>Page 257 line 24 to page 258 line 19.</p>	<p>modifying, identifying, transferring, and other functioning of said decoders.</p> <p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically</p>

Claim Language	Reference	Language	Reference	Support to instant specification. Language
			<p>oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchronizing command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p>	<p>oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchronizing command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p>
		<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.</p>	<p>Page 265 line 27 to Page 266 line 21.</p> <p>Page 250 lines 13-17.</p> <p>Page 251 lines 8-11.</p>	

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			Page 263 lines 19-24.	... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.
	Column 4 lines 36-46.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.	Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
		Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.	Page 13 lines 19-24.	[The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
			Page 14 lines 13-25.	In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
				SPAM messages are composed of elements--headers, execution segments,

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			<p>meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p>	<p>meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p>
			<p>Page 60 line 19 to page 61 line 1.</p>	
			<p>Page 91 lines 18-20.</p>	
programming one of said remote intermediate transmitter station and said at least one receiver station to communicate said at least one signal to one of a storage device and an output device based on processing said one of a code and a datum.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	<p>Page 325 line 34 to page 326 line 10.</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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	Column 11 lines 38-65.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to</p>	<p>fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>....monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 14 to page 329 line 1.</p>

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		turn on and record the programming.	<p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field</p>
			<p>Page 329 lines 2-22.</p>

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135. The method of claim 132, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station to compare at least some of said at least one first instruction to at least a portion of said at least one second instruction.	Column 11 lines 18-31.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 27 to page 327 line 2.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.		

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			<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p>
			<p>Page 84 lines 26-28.</p>
			<p>Page 28 lines 26-27.</p>
			<p>Page 49 lines 26-27.</p>
			<p>Page 326 lines 28-30.</p>

136. The method of claim 132, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station to one of detect and identify an instruction based on a varying	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	<p>Page 325 line 34 to page 326 line 10.</p>
			<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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pattern of one of location, timing and composition.	Column 17 lines 39-44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23.	station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...
			Page 34 lines 24-26.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
			Page 44 lines 14-15.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 95 lines 18-21.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
				Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	Column 9 lines 47-57.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	Page 248 line 17 to page 249 line 5.	Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless

Claim Language	Reference	Language	Reference	Support to instant specification. Language
			<p>Page 257 line 24 to page 258 line 19.</p> <p>Page 257 line 24 to page 258 line 19.</p> <p>Page 265 line 27 to</p>	<p>channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information</p>

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		This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 266 line 21.	<p>causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p> <p>[The means and methods of this invention]</p>
			Page 250 lines 13-17.	
			Page 251 lines 8-11.	
			Page 263 lines 19-24.	
			Page 37 lines 26-28.	
	Column 4 lines 36-46.	In addition, the pattern of the composition,	Page 13 lines 19-24.	

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		<p>timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.</p>	<p>also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p>	
			<p>Page 14 lines 13-25.</p>	
			<p>Page 60 line 19 to page 61 line 1.</p>	<p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A</p>

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				<p>Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p>
			Page 91 lines 18-20.	

<p>137. The method of claim 130, wherein said at least one signal contains one of television and radio programming, said method further comprising the step of:</p>	Column 12 lines 57-64.	<p>This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.</p>	Page 339 lines 9-26.	<p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate programming and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.</p>
	Column 19 lines 1-4.	<p>In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to</p>	Page 419 line 34 to page 420 line 2.	<p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting</p>

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		monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 11 lines 5-10.	programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
programming one of said remote intermediate transmitter station and said at least one receiver station to identify said at least one first instruction and said at least one second instruction.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. <i>See generally.</i>
	Column 9 lines 41-44.	The signal processor apparatus described in FIG. 1 can identify such signals in multiple and variable locations in multiple and variable modes, channels, and transmissions.	Page 248 line 13 to page 271 lines 30. Page 457 line 12 to page 463 line 28.	In certain SPAM functions, controller, 20, of signal processor, 200, controls control processor, 39J, and as Fig. 3A shows, control processor, 39J, has means for communicating control information directly with said

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	<p>Column 4 lines 36-46.</p>	<p>In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.</p>	<p>Page 13 lines 19-24.</p> <p>Page 14 lines 13-25.</p> <p>Page 60 line 19 to page 61 line 1.</p>	<p>controller, 20. The RAM and/or ROM associated with control processor, 39J, are preprogrammed with all information necessary for controlling all such controlled apparatus.</p> <p>[The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the</p>

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			<p>highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p>	
			Page 91 lines 18-20.	

<p>138. The method of claim 137, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station to one of detect and identify an instruction based on a varying pattern of one of location, timing and composition.</p>	Column 11 lines 3-5.	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...</p>	Page 325 line 34 to page 326 line 10.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p>
	Column 17 lines 39-44.	<p>Signal processor apparatus have the ability to identify instruction and information signals in one or more</p>	Page 15 lines 16-23.	<p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or</p>

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		inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p>	<p>series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the</p>
	Column 9 lines 47-57.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	<p>Page 248 line 17 to page 249 line 5.</p> <p>Page 257 line 24 to page 258 line 19.</p>	

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			<p>frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period</p>
	<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p>	
		<p>Page 265 line 27 to Page 266 line 21.</p>	

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		This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 250 lines 13-17.	<p>of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p>
			Page 251 lines 8-11.	<p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p>
			Page 263 lines 19-24.	<p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information of said error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>
			Page 37 lines 26-28.	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p>
	Column 4 lines 36-46.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.	Page 13 lines 19-24.	<p>[The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p>
				In television audio, [signals] are likely to lie

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		<p>Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.</p>	<p>Page 14 lines 13-25.</p> <p>Page 60 line 19 to page 61 line 1.</p>	<p>between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p> <p>All subscriber station apparatus are fully</p>

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				preprogrammed to perform automatically each step of each example. No manual step is required at any station.
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139. The method of claim 130, wherein executable code containing said at least one first instruction and said at least one second instruction	Column 19 lines 42-53.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...
		When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
			Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
			Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
		These signals instruct microcomputer, 205,	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a

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		<p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p> <p>transmit these overlays to TV set, 202,</p> <p>upon command.</p>	<p>file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function</p>
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is assembled in said network, said method further having one step from the group consisting of:	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 26 lines 20-28.	<p>or functions. A command is always constituted of at least a ...</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	<p>Page 14 line 32 to page 15 line 2.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information,</p>

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programming one of said remote intermediate transmitter station and said at least one receiver station to assemble code based on at least one discrete signal detected in a transmission; and	Column 5 lines 16-20.			by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
			Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
			Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.
programming one of said remote intermediate transmitter station and said at least one receiver station to assemble code based on at least one discrete signal detected in a transmission; and			Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
	Column 5 lines 16-20.	[The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	[The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.
	Column 8 lines 35-37.	[Controller, 20] can instruct buffer/comparator, 8, how to assemble signal words into signal units and join units together for further transfer and ...	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...
			Page 37 line 31 to page	Controller, 39, is preprogrammed to discard

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programming one of said remote intermediate transmitter station and said at least one receiver station to assemble code based on discrete signals received at different times.	Column 4 lines 36-46.		38 line 3.	received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... Controller, 20, has capacity to preprogram (or reprogram) all said decoder apparatus, 27, 28, 29, 30, and 40, and thereby controls the fashions of detecting, correcting, converting, modifying, identifying, transferring, and other functioning of said decoders.
			Page 13 lines 19-24. Page 14 lines 13-25.	[The means and methods of this invention] also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly. In television audio, [signals] are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.

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			<p>Page 60 line 19 to page 61 line 1.</p> <p>SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments--whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.</p>
			<p>Page 91 lines 18-20.</p> <p>All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.</p>
	Column 8 lines 30-32.	This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired.	<p>Page 248 line 35 to page 249 line 5.</p> <p>In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p>
			<p>Page 253 lines 22-35.</p> <p>Automatically oscillator, 6, causes switch, 1, to shift its contact lever from the first alternate contact to the second alternate contact to</p>

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			<p>Page 265 line 30 to page 266 line 4.</p>	<p>which wireless transmissions are inputted and causes mixer, 3, to select the frequency of interest, channel 5 and input said frequency of interest, at a fixed frequency, to decoder, 30.</p> <p>Controller, 20, then transmits a particular preprogrammed wireless-5 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 5 is inputted to decoder, 30.</p> <p>Receiving said wireless-5 instruction causes control processor, 39J, to cause all apparatus of decoder, 30, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.</p> <p>Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40. Controller, 20, then transmits a particular preprogrammed radio-99.0 instruction to control processor, 44J, that informs said processor, 44J, 99.0 MHz is inputted to decoder, 40.</p> <p>Receiving said radio-99.0 instruction causes control processor, 44J, to cause all apparatus of decoder, 40, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.</p>
<p>140. The method of claim 130, wherein data is one of assembled and communicated in said network based on said at least one first instruction and said at least one second instruction, said method further having one step</p>	<p>Column 7 lines 37-39.</p>	<p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	<p>Page 37 lines 22 to page 38 line 10.</p>	<p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39,</p>

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from the group consisting of:				44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
			Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
			Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.
			Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
	Column 8 lines 35-37.	[Controller, 20] can instruct buffer/comparator, 8, how to assemble signal words into signal units and join units together for further transfer and ...	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...
			Page 37 line 31 to page 38 line 3.	Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained

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	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	<p>Page 39 lines 16-21.</p> <p>Page 14 line 32 to page 15 line 2.</p>	<p>received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ...</p> <p>Controller, 20, has capacity to preprogram (or reprogram) all said decoder apparatus, 27, 28, 29, 30, and 40, and thereby controls the fashions of detecting, correcting, converting, modifying, identifying, transferring, and other functioning of said decoders.</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
programming one of said remote intermediate transmitter station and said at least one receiver station to respond to	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	<p>Page 325 line 34 to page 326 line 10.</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p> <p>The frequencies may convey television, radio, or other programming transmissions....The</p>
	Column 17 lines 39-44.	Signal processor apparatus have the ability to identify instruction and	Page 15 lines 16-23.	

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one of a code and datum which is operative in said network to designate one of	Column 15 lines 57-62.	information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ... A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p>
		The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.	<p>Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>
			Meter-monitor segments contain meter information and/or monitor information.	<p>Page 49 line 26 to Page 50 line 4.</p>

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an information and a signal type to be one of assembled and communicated; and				<p>Examples of categories of such information include:</p> <ul style="list-style-type: none"> ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times monitor information that identifies what programming is available, ... <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; ... and is preprogrammed at the controller, 39, of its decoder, 30, and at its controller, 12, to transfer to the decoder, 203, of the microcomputer, 205, of its station any detected SPAM message with an instance of particular URS-205 execution segment information ...</p> <p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder,</p>
	Column 17 lines 62-65.	Signal processor, 200, is always operating and monitors all incoming channels. It can convey such signals to microcomputer, 205, whenever it receives them.	Page 28 lines 26-27. Page 397 lines 17-26.	
	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 411 lines 10-11. Page 88 lines 19-22.	
		TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29.	

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				<p>203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio</p>	<p>Page 414 lines 13-27.</p> <p>Page 15 lines 16-22.</p> <p>Page 36 lines 32-33.</p> <p>Page 38 lines 11-14.</p> <p>Page 411 lines 10-15.</p> <p>Page 418 line 23 to page 419 line 15.</p>	<p>The processors, 204 and 210, transfer this information to signal processor, 200,</p>

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			<p>for recording and subsequent transmission to a remote data collection site.</p>	<p>programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to</p>	<p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p>	

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		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p>	<p>Page 28 lines 25-35.</p>	<p>initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
Column 9 line 68 to column 10 line 2.	<p>The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.</p>		<p>Page 397 lines 17-20.</p>	<p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>
			<p>Page 32 lines 20-21.</p>	<p>Buffer/comparator, 14, operates under control of controller, 20, ...</p>
Column 16 lines 51-61.	<p>Signal processor, 130, would probably receive these signals from decoders, 131, 136, 138, 143, 145, 147, 149, and 150) at its buffer/comparator unit, 14 (referring to FIG. 1).</p>		<p>Page 223 lines 22-33.</p>	<p>Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing</p>

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		<p>information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.</p> <p>Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means. Said information is received (and processed) at signal processor, 200, by the onboard controller, 14A,</p> <p>(In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, similarly to the fashion in which controller, 12 is controlled by controller, 20.)</p> <p>...that the source mark information identifies decoder, 282, rather than decoder, 203.</p> <p>Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header</p>	<p>Page 224 lines 12-18.</p> <p>Page 315 lines 6-10.</p> <p>Page 32 lines 24-33.</p> <p>Page 322 lines 33-35.</p> <p>Page 174 lines 4-17.</p> <p>Page 178 lines 27-35.</p>	<p>in a predetermined fashion that would permit signal processor, 130, to identify which decoder the individual signals come from</p>	<p>Page 224 lines 12-18.</p> <p>Page 315 lines 6-10.</p> <p>Page 32 lines 24-33.</p> <p>Page 322 lines 33-35.</p> <p>Page 174 lines 4-17.</p> <p>Page 178 lines 27-35.</p>
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		<p>and, in a predetermined fashion, create a signal string</p> <p>by appending digital information to the received signal which information might</p> <p>identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.</p>	<p>information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,....</p> <p>Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre- entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M.</p> <p>Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.</p> <p>...creating a meter record that records the decryption....</p> <p>Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular</p>	<p>Page 180 lines 1-3.</p> <p>Page 297 line 15.</p> <p>Page 180 lines 4-15.</p> <p>Page 181 lines 8-14.</p>
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				<p>preprogrammed record....</p> <p>In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...</p>
programming one of said remote intermediate transmitter station and said at least one receiver station to respond to one of a code and a datum which one of designates and identifies said data.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p>
	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.
	Column 15 lines 63-68.	In the case of data transmitted to the	Page 49 lines 26-28.	Meter-monitor segments contain meter

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			micro-computer, they may be unique codes that identify the source and suppliers of the data. In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertisements, etc.		information and/or monitor information. Examples of categories of such information include:.... ...unique codes that identify the sources and suppliers of computer data. ...and causes said A T&T news item to be printed at said printer, 221. ...meter-monitor segment that contains the "program unit identification code" information of said A T&T news item and subject matter information of said binary information of "T",
141. The method of claim 140, further comprising the step of: programming said at least one receiver station to respond to at least one downloadable instruction which is transmitted from said remote intermediate transmitter station.	Column 19 lines 42-53.		Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 450 lines 31-32. Page 21 lines 20-24. Page 451 lines 6-7. Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given

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			instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
	These signals instruct microcomputer, 205,		Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."	Page 24 lines 5-16.
	to generate several graphic video overlays,		... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.	Page 451 lines 7-11.
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to		Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video	Page 19 line 29 to page 20 line 20.

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		transmit these overlays to TV set, 202, upon command.	Page 26 lines 4-8. Page 44 lines 14-17. Page 26 lines 20-28.	image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a ... (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
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142. The method of claim 140, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission
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Column 5 lines 16-20.	[The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...
Column 8 lines 32-35.	The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns.	Page 33 lines 18-20. For example, page 290 line 11 to page 291 line 4.	[The apparatus] has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions. Controller, 20, has capacity for controlling the operation of all elements of the signal processor executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time (when said originating studio commences transmitting the "Wall Street Week" program), controller, 20, causes all apparatus of the TV signal decoder, 30, to delete from memory all information of received SPAM information; transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable

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				channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; causes said control processor, 39J, to cause digital detectors, 34, 37, and 38, to cease inputting detected information to controller, 39, and commence discarding said information (which said detectors, 34, 37, and 37, have capacity to do) and to cause particular apparatus of decoder, 30,--for example, line receiver, 33, and digital detector, 34--to commence receiving and inputting to controller, 39, SPAM information detected in the frequency inputted to decoder, 30; ... They also include techniques whereby the pattern of the composed signals may vary in location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
to organize one of	Column 7 lines 36-37.	Buffer/comparator, 8, organizes the data stream that it receives according to a predetermined fashion ...	Page 13 lines 19-24. Page 30 lines 7-9.	Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion. Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs
said at least one first instruction and said at least one second instruction which operates in said network to one of designate and	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a	Page 36 line 32 to page 37 line 3. Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a

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<p>identify one of a location of one of said at least one signal and said data and a source communicating one of said at least one signal and said data.</p>	<p>Column 19 lines 20-23.</p>	<p>identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>programming unit is to be retransmitted immediately or recorded for delayed transmission.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC 13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to...</p>

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				<p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"</i> <i>program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable channel 13; ...</p>
			Page 439 lines 14-15.	

<p>143. The method of claim 140, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station to one of locate and identify said one of a code and a datum based on one of</p>	Column 11 lines 3-5.	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...</p>	<p>Page 325 line 34 to page 326 line 10.</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p>
	Column 18 lines 24-25.	These signals instruct tuner, 213, to tune	Page 410 lines 10-11.	Receiving said SPAM message causes said

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	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	can guide station control apparatus to desired programming.) Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 18 lines 55-58.	... microcomputer, 205, instructs signal processor, 200, to hold examples of the sought for unique signals in its	Page 288 lines 13-20.	As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225,

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		buffer/comparator, 8, and compare them with all incoming signals.		<p>in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...</p>
			<p>Page 420 lines 6-20.</p> <p>Page 422 lines 33 to Page 423 line 4.</p>	

145. The method of claim 130, wherein said specific time is a scheduled time of transmitting said at least one signal from said remote intermediate transmitter station, said method further comprising the step of:	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with</p>
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			<p>information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate</p>
	Page 84 lines 26-28.		
	Page 28 lines 26-27.		
	Page 49 lines 26-27.		
	Page 327 line 35 to page 328 line 13.		
Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		
			Page 84 lines 26-28.

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			transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.	
			Page 28 lines 26-27. Page 49 lines 26-27.	
programming said remote intermediate transmitter station to control said at least one of said plurality of selective transfer devices prior to said scheduled time based on said at least one first instruction and said at least one second instruction.	Column 11 lines 21-31. Column 11 lines 57-64.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93. Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 326 line 30 to page 327 line 2. Page 329 line 2-20.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ... Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed

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				fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
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146. The method of claim 130, wherein one of said remote intermediate transmitter station and said at least one receiver station includes a switch and a storage device, said method comprising the steps of:	Column 10 lines 41-43. Figs. 6F & 6G.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35. See Fig. 7.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
programming one station in said network to respond to at least one switch control instruction; and	Column 11 lines 39-41. Column 11 lines 38-39.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ... By comparing identification signals on the incoming programming with the programming schedule ...	Page 328 lines 9-10. Page 326 lines 28-30. Page 327 line 35 to page 328 line 13.	... with information of the programming schedule, received earlier from input, 74, and/or network, 98, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule

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					received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
		Page 84 lines 26-28.			
				Page 28 lines 26-27.	
				Page 49 lines 26-27.	
			... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	
	Column 11 lines 54-57.				
programming one station in said network to respond to at least one storage control instruction.	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...		Page 328 lines 9-10.	... with information of the programming schedule, received earlier from input, 74, and/or network, 98, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...		Page 326 lines 28-30.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 15-16.</p>	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
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<p>147. The method of claim 130, wherein one of said remote intermediate transmitter station and said at least one receiver station includes a computer and a computer peripheral memory, said computer capable of communicating to a</p>	<p>Column 18 lines 65-67.</p>	<p>... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...</p>	<p>Page 426 lines 10-18.</p>	<p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p>
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plurality of devices, said memory capable of storing said at least one signal, said method further comprising the steps of:	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
programming one station in said network to respond to at least one communication control instruction; and	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205,	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load

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			<p>at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
	to generate several graphic video overlays,	Page 451 lines 7-11.	
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to	Page 19 line 29 to page 20 line 20.	
	transmit these overlays to TV set, 202,	Page 26 lines 4-8.	

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	<p>upon command.</p> <p>Column 19 lines 60 to page 20 line 2.</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus</p>
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programming one station in said network to respond to at least one storage control instruction.	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 26 lines 4-11. Page 451 line 3.	... Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed.
	Column 18 lines 58-67.	Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	Page 422 line 23 to page 423 line 13.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ... At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5. Receiving said message causes said controller, 20, to cause a selected cable

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			<p>converter box, 222, to receive the transmission identified by said channel mark; ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-</p>
			<p>Page 267 lines 20-28 from example #5.</p>
			<p>Page 424 lines 3-9.</p>
			<p>Page 435 lines 16-25.</p>
			<p>Page 437 lines 1-6.</p>

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			<p>WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then ... to cause said unit, 256, to record said AT&T news item.)</p>	<p>Page 426 lines 10-18.</p>
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<p>148. The method of claim 130, wherein one of said at least one first instruction and said at least one second instruction comprises one of a code and a datum which operates at said remote intermediate transmitter station to identify said at least one signal, said method further comprising the step of:</p>	<p>Column 11 lines 21-24.</p>	<p>Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...</p>	<p>Page 326 lines 30-33.</p>	<p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.</p>
	<p>Column 11 lines 38-39.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule ...</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>

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			<p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>		<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first</p>	<p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.</p>	<p>Column 19 lines 14-20.</p>	<p>programming one station in said network to respond to a transmission schedule in respect of said at least one signal.</p>
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			<p>command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment)</p> <p>then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new -program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and</p>
		<p>Page 267 lines 20-28 from example #5.</p>	
	<p>Signal processor, 200, receives this instruction from microcomputer, 205,</p>	<p>Page 288 lines 16-20.</p>	

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		which reacts in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28.</p>	<p>information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
			Page 435 lines 16-25.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>
	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video</p>	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor</p>

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		recorder/players, 76 and 78.		information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to

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				matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
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149. The method of claim 148, wherein said transmission schedule controls communication of a plurality of signals of one of television, radio, data, and multimedia programming, said method further having at least one step from the group consisting of:	Column 11 lines 15-21.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility. The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Column 12 lines 57-64.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.	Page 326 lines 27-30. Page 339 lines 9-26.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can	Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting

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		be co-ordinated to give a multimedia presentation at one time in one place.	page 450 line 27 to page 451 line 11.	<p>receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.		Page 449 lines 13-35.	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing</p>

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				<p>stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p> <p>Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p>
	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	
programming one of said remote intermediate transmitter station and	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

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	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p> <p>This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.</p>	<p>Page 328 line 22 to page 329 line 1.</p> <p>Page 339 lines 9-26.</p>
	<p>Column 11 lines 50-57.</p> <p>Column 12 lines 57-64.</p>	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and</p>

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said at least one receiver station to communicate at least one of said plurality of signals of one of television, radio, data, and multimedia programming;	<p>Column 18 lines 46-48.</p> <p>Column 19 lines 20-29.</p>	<p>... microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 420 lines 3-6.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.</p> <p>The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information</p>

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			Page 439 lines 9-15.	causes controller, 20, in a predetermined fashion, to prepare particular apparatusto cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
		instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...
		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
		and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 446 lines 18-23.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
			Page 445 line 35 to page 446 line 1.	...and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia	Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and

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		presentation at one time in one place.	page 450 line 27 to page 451 line 11.	controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
Column 19 lines 42-49.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.		Page 450 lines 31-32. Page 21 lines 20-24.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to instruction signals embedded in the "Wall Street Week" programming transmission.
	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified		Page 451 lines 6-7. Page 23 line 35 to	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions

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	by decoder, 203, and transferred to microcomputer, 205.	page 24 line 4.	is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
	These signals instruct microcomputer, 205, ...	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred, and to transfer said signals to said apparatus.
programming one of said remote intermediate transmitter station and	Column 11 lines 21-31.	Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73,

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said at least one receiver station to	Column 12 lines 58-64.	<p>switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p> <p>The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.</p>	<p>Page 339 lines 9-26.</p>	<p>to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting</p>
	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels	Page 419 line 34 to Page 420 line 2.	

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respond to one of a code and a datum which one of designates and identifies at least one of said plurality of signals of one of television, radio, data, and multimedia programming;	<p>Column 18 lines 46-48.</p> <p>Column 19 lines 20-29.</p>	<p>and selecting programming and information in a predetermined fashion.</p> <p>... microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 420 lines 3-6.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>programming and information of interest, and receiving said selected programming and information.</p> <p>The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p>

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			<p>-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
		Page 439 lines 9-15.	
	instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	
	and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.	
	and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 446 lines 18-23.	
	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	
		Page 445 line 35 to page 446 line 1.	
		Page 446 lines 17-21.	

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Column 19 lines 31-34.	FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. ... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.
	Column 19 lines 42-49.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.	Page 450 lines 31-32. Page 21 lines 20-24.

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		When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205, ...	Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
programming one of said remote intermediate transmitter station and said at least one receiver station to respond to an instruction which is operative in said network to output at least one of said plurality of signals of one of television, radio, data, and multimedia programming from a storage location; and	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 11 lines 38-46.	By comparing identification signals on the	Page 327 line 35 to	Computer, 73, monitors incoming

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		<p>incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 325 lines 6-9.</p> <p>Page 450 lines 31-32.</p>	<p>programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>... caused his microcomputer, 205, to be</p>
	<p>Column 10 lines 49-52.</p>	<p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>		
	<p>Column 19 lines 42-53.</p>	<p>Microcomputer, 205, is preprogrammed to</p>		

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		respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.	Page 21 lines 20-24.	preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
		When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205,	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a

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		to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to	Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	set of instructions that is loaded and run is called a "program instruction set." ... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		transmit these overlays to TV set, 202, upon command.	Page 26 lines 4-8. Page 44 lines 14-17.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a ...
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is

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	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18. Page 248 lines 22-26 from example #5. Page 250 lines 13-16 from example #5. Page 252 lines 15-35 from example #5.	<p>called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that</p>
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			includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
		Page 267 lines 20-28 from example #5.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
		Page 435 lines 16-25.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM</p>

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			<p>message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Page 436 line 9 to page 437 line 3.</p> <p>Page 439 lines 14-15.</p>
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	Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p>	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
	<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p>	<p>Page 37 line 26 to page 38 line 8.</p>	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
Column 19 lines 1-4.	<p>In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television</p>	<p>Page 419 line 34 to page 420 line 2.</p>		<p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and</p>	

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		channels and/or radio channels for programming of interest to play or record.	Page 11 lines 5-10.	receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
programming one of said remote intermediate transmitter station and said at least one receiver station to respond to an instruction which is operative in said network to store at least one of said plurality of signals of one of television, radio, data, and multimedia programming.	Column 11 lines 21-31. Column 11 lines 38-43.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93. By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 326 line 30 to page 327 line 2. Page 327 line 35 to page 328 line 13.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ... Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a

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			<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
	Page 84 lines 26-28.		
	Page 28 lines 26-27.		
	Page 49 lines 26-27.		
	Page 329 line 2-20.		
	Column 11 lines 57-64.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	

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	Column 18 lines 46-48.	... microprocessor, 205, is programmed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 3-6.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.
	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined

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				<p>Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p>
	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	

150. The method of claim 148, further comprising the step of: programming one of said remote intermediate transmitter station and said at least one receiver station to communicate said at least one signal to one of a plurality of output devices and an output device a plurality of times.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television	Page 419 line 34 to page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and

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		channels and/or radio channels for programming of interest to play or record.	Page 11 lines 5-10.	receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...		Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
	... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...		Page 19 line 29 to page 20 line 20. Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
			Page 451 line 3.	And the Fig. 1C combining is displayed.

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151. The method of claim 130, wherein said second storage location is at said at least one receiver station, said method further having one step from the group consisting of:	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2.	
			Page 11 lines 5-10.	

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<p>one of said at least one first instruction and said at least one second instruction which is operative to cause said network to store said at least one signal.</p>	<p>input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.</p> <p>Column 11 lines 57-64.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p> <p>Page 329 line 2-20.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>

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152. A method of controlling	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
a network having a remote intermediate transmitter station and	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated

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at least one receiver station,		Column 6 lines 13-15.	television programming, radio programming, and making other electronic transmissions.	Page 18 lines 16-17	may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	with said remote intermediate transmitter station including at least one intermediate transmitter for transmitting data,	Column 10 lines 43-47.	FIGS. 6F and 6G comprise a block diagram of signal processor apparatus and methods as they might be used at a consumer receiver site. ... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	Fig. 7 is a block diagram of signal processing apparatus and methods at an ultimate receiver station. ... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter for communicating said data,		Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 9-26.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	a receiver for receiving said data from outside said network,	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53,

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		<p>TV receivers, 53, 54, 55, and 56.</p> <p>Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59.</p> <p>Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p>		<p>54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>	
a control signal detector,	Column 3 lines 6-8.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	Page 14 line 35 to page 15 line 2.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	
	Column 11 lines 38-41.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...</p>	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>	
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>	
			Page 28 lines 26-27.	<p>... monitor information that identifies what</p>	

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and a controller capable of controlling at least one of said plurality of selective transfer devices, and	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 49 lines 26-27.	programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 38-57.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 326 lines 28-30. Page 328 lines 14-16. Page 327 line 35 to page 328 line 13.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ... Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...
with said remote intermediate transmitter station adapted to detect at least one control signal, to control communication of said data in response to said at least one control signal, and			Page 84 lines 26-28. Page 28 lines 26-27.	...monitor information that identifies what

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to deliver said data at said at least one intermediate transmitter, said method comprising the steps of:	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87,	<p>programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.</p> <p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63.</p>	<p>Page 49 lines 26-27.</p> <p>Page 328 line 14 to page 329 line 1.</p> <p>Page 328 line 22 to page 329 line 1.</p>

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		controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
receiving said data outside said network,	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 22 lines 1-6.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and

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said data including an instruct signal which is effective in said network	Column 11 lines 38-46.	<p>or other transmission.</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.	
			Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
			... processes signal information embedded in an inputted radio frequency.	
			... processes signal information embedded in a frequency other than a television or radio frequency.	
			Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.	
			By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....	

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				<p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 329 line 2-20.</p>	
to output said data from a first storage location and	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...				
store said data at a	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.			
	Column 19 lines 20-27.	Analyzing these identifier signals in a	Page 436 line 9 to	Receiving said Select-WSW-Program-Unit		

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second storage location;	<p>predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>page 437 line 6.</p> <p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p>
		<p>message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its</p>

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receiving said at least one control signal outside said network, said at least one control signal operative at said remote intermediate transmitter station to control communication of said data; and	Column 11 lines 38-46.	<p>and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	Page 445 lines 24-27.	associated converter box, 201, to convert its... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
			Page 446 lines 18-23.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations or embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.

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	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 328 lines 14-16. Page 326 line 30 to page 327 line 2.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ... Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
transmitting said at least one control signal to said network before a specific time.	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...

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	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said</p>
	Page 84 lines 26-28.		Page 28 lines 26-27.	
	Page 49 lines 26-27.		Page 326 lines 28-30.	
	Page 267 lines 20-28 from example #5.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		

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			<p>microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said</p>
			<p>Page 435 lines 16-25.</p>
			<p>Page 436 line 9 to page 437 line 3.</p>

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			<p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>	
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153. A method of processing data at a receiver station,	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of</p>
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said receiver station including a television monitor for displaying television programming and	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... transmit these overlays to TV set, 202,...	Page 19 line 29 to page 20 line 20. Page 26 lines 4-8.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic

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said television monitor capable of displaying a video image comprised of data stored in a one of said plurality of storage locations overlaid on television programming,	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. ... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
said receiver station being capable of communicating stored data selectively to and from each of said plurality of storage locations in response to at least one command, said method comprising the steps of:	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on

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		<p>a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
	<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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			<p>For example, page 332 lines 23-31.</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>	<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
receiving an information transmission;	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-35.	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing</p>

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detecting embedded data on said information transmission;	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
selecting a specific	Column 19 lines 39-41.	[Microcomputer, 205,] records those	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)

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datum of said detected data; and		prices that relate to the stocks in its stored portfolio.	stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
storing said selected datum at a storage location of a storage device that is not communicating or outputting data to said television monitor,	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
said step of storing enabling said storage device to communicate or output said selected datum to a processor in response to a control signal and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
said television monitor to display in television programming at a selected time processed information of said selected datum.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

154.	The method of	Column 19 lines 39-41.	[Microcomputer, 205.] records those	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote
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claim 153 further comprising the step of identifying said selected datum.		prices that relate to the stocks in its stored portfolio.		stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.

155. The method of claim 154 wherein said step of identifying comprises the step of comparing at least a portion of said selected datum to previously stored information describing a plurality of data.	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them	Page 420 lines 6-20.	The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes

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		with all incoming signals.		<p>identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....</p>
			<p>Page 422 lines 33 to</p> <p>Page 423 line 4.</p>	

156. The method of claim 154 wherein said step of storing comprises the step of storing said selected datum and identification information identifying said selected datum at a storage location of a storage device to enable said subsequent identification of said selected datum based on said identification information.	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
		... to generate several graphic video	Page 451 lines 7-11.	... the program instruction set in the first

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		overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

157. The method of claim 156 further comprising the steps of: receiving a control signal;	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
detecting said control signal; and	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
performing the following steps in response to detecting said control signal: (a) identifying the storage location storing the selected datum based on the stored identification information;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video

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		<p>... transmit these overlays to TV set, 202, ...</p> <p>[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.</p> <p>Column 19 lines 39-41.</p>	<p>Page 26 lines 4-8.</p> <p>Page 449 lines 13-20.</p>	<p>information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.</p>
(b) outputting the selected datum from its storage location to a receiver station processor;	<p>Column 19 lines 48-53.</p>	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video</p>

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(c) processing said selected datum; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at

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		202,...		the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(d) displaying said processed datum on said television monitor.	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...

158. The method of claim 157 wherein said step (c) comprises the step of processing said selected datum to generate one or more graphics; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
said step (d) comprises the step of displaying said one or more generated graphics on said television monitor.	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...

159. The method of claim 156 wherein said step of storing comprises the steps of: embedding said identification information in said selected datum, said identification information identifying said selected datum; and	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-35.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission
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	Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 32 to page 421 line 17.	<p>monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.</p>
storing said selected datum and said embedded identification information at a storage location of a storage device to enable subsequent identification of said selected datum based on said identification information.	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.</p>
	Column 19 lines 48-53.	These signals instruct microcomputer, 205,	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial

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		<p>... ... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p>	<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p>
		<p>... transmit these overlays to TV set, 202,...</p>	<p>Page 26 lines 4-8.</p>	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
	<p>Column 18 lines 65-67.</p>	<p>... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...</p>	<p>Page 426 lines 10-18.</p>	<p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p>

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160. The method of claim 154 further comprising the step of storing information indicating said storage location storing said selected datum.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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161. The method of claim 153 wherein said step of storing comprises storing said selected datum in a file at a storage location of a storage device that is not communicating or outputting data to said television monitor,	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
said step of storing enabling said storage device to communicate or output said selected datum to a processor in response to a control signal to process said selected datum and display said processed datum.	Column 11 lines 64-65. Column 19 lines 48-53.	... instructs the recorder/player, 76 or 78, to turn on and record the programming. These signals instruct microcomputer, 205, to	Page 329 line 15-16. Page 23 line 35 to page 24 line 16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of

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		generate several graphic video overlays, ...	Page 451 lines 7-11.	instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.") ... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
		upon command.	Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...

162. The method of claim 153 further comprising the steps of: receiving software or computer instructions from a remote source;	Column 19 lines 42-43.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to ...	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...
			Page 21 lines 20-23.	Microcomputer, 205, is preprogrammed to ... respond ... to ...
	Column 8 lines 58-60.	Control signals can be passed to the	Page 290 lines 26-31.	... causes the oscillator, 6, then to cause

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		apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.		switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ... In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
storing said software or computer instructions to program or reprogram a computer at said receiver station, said computer executing said software or computer instructions to perform one or more of said steps of detecting, selecting and storing.	Column 19 lines 42-43.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to ...	Page 291 lines 21-24. Page 59 lines 29-31.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to ...
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the	Page 19 line 29 to page	Microcomputer, 205, is a conventional

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		means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	20 line 20.	microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)

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163. The method of claim 153 wherein said step of selecting comprises selecting a specific datum of said detected data, said selected datum comprising one from the group of: a news item; stock prices;	Column 18 lines 47-48. Column 19 lines 35-37.	... and to receive news about these particular stocks and about the industries they are in. Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 420 lines 5-6. Page 449 lines 13-26.	... and to receive and process automatically news items about said stocks and about the industries of said stocks. Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
a unit of television or radio programming;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi- channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.

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	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the

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an identification signal identifying a unit of television or radio programming; and	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or	Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and

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		companies to which the news item refers and/or the industries.		<p>receiving any given message in a Transmit-News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.</p>
electronic or computer data.	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p>
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	<p>... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>

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<p>164. The method of claim 153 wherein said receiver station comprises an intermediate transmission station, said information transmission comprises a plurality of units of television programming, each of said units of television programming having an embedded identification signal identifying that unit of television programming, and</p>	Column 10 lines 24-28.	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p>	Page 324 lines 18-21.	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>
	Column 10 lines 61-63.	<p>Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.</p>	Page 324 lines 23-31.	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>
	Column 11 lines 3-5.	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission</p>

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said step of selecting comprises the step of selecting one of said units of television programming based on the said programming schedule and said embedded identification signal of said selected unit.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	

165. The method of claim 164 wherein said step of selecting comprises the steps of: comparing said identification signal of each of said units of	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has
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television programming to said programming schedule; and			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
selecting one of said units of television programming listed in said programming schedule;	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution</p>

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said step of storing comprises the step of storing said one of said units of programming and said identification signal of said one of said units of television programming at a storage location to enable later identification of said one of said units of television programming based on said identification signal of said one of said units of television programming.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.

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166. The method of claim 165 further comprising the steps of: identifying, based on identification signal of said one of said units of television programming, said storage location storing said selected one of said units of television programming; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
communicating, under processor control, said selected one of said units of television programming from said storage location storing said selected one of said units of television programming to said television monitor or a subscriber in accordance with said programming schedule to display said one of said units of programming.	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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<p>167. The method of claim 165 further comprising the steps of: processing said identification signal of said one of said units of television programming by comparing said identification signal of said one of said units of television programming to said received programming schedule to determine a time and channel for communicating said one of said units of television programming;</p>	Column 11 lines 38-43.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...</p>
			Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
outputting said one of said units of television programming; and	Column 11 lines 50-57.	<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to</p>	Page 328 line 22 to page 329 line 1.	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that</p>

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		transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
communicating said outputted one of said units of television programming to a receiver station or said television monitor to display said one of said units of television programming according to said programming schedule.	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.

168. The method of claim 153 wherein said receiver station	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia	Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and
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comprises a viewer or subscriber station, said method further comprising the steps of:		presentation at one time in one place.	page 450 line 27 to page 451 line 11.	<p>controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
receiving a control signal; and	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of</p>

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performing the following steps in response to receiving said control signal: outputting said selected datum from said storage location to a processor;	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p> <p>[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p> <p>Page 449 lines 13-20.</p>	<p>signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at</p>

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				each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
processing said selected datum; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... transmit these overlays to TV set, 202,...	Page 19 line 29 to page 20 line 20. Page 26 lines 4-8.	Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer

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				generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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169. The method of claim 168 wherein said information transmission further comprises a unit of television programming, said method further comprises the step of displaying said unit of television programming on said television monitor.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.

170. The method of claim 169, wherein said step of processing comprises the step of processing said selected datum to generate a video graphic,	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic

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and wherein said step of displaying said processed selected datum comprises the step of displaying said generated video graphic, said generated video graphic conveying user specific information related to said unit of television programming.	Column 19 lines 67 to column 20 line 2.	... transmit these overlays to TV set, 202,...	Page 26 lines 4-8. Page 451 line 3. Page 26 lines 8-11.	overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

171. The method of claim 170 wherein said steps of displaying said generated video graphic and displaying said unit of television programming results in displaying a video image comprising said generated video graphic overlaid on said unit of	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of 'his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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television programming.				
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172. The method of claim 153 further comprising the steps of: receiving a second information transmission comprising a unit of television programming and a digital control signal;	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 18 lines 14-17.	TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal.

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				Said message is detected at said decoder, 203, and inputted to said controller, 39,
outputting at least a portion of said unit of television programming on said television monitor;	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
detecting said digital control signal;	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
processing said selected stored datum to generate, under computer control, a user specific graphic;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.

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		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
outputting said generated user specific graphic to said television monitor in response to detecting said digital control signal to present a combined display on said television monitor of said unit of television programming and said user specific graphic.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

173. The method of claim 172, further comprising the step of tuning, automatically	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the
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under computer control, to a predetermined frequency or channel to receive at least one of said information transmission and said second information transmission.				<p>controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency, ...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
	Column 18 lines 24-25.	These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 439 lines 9-15.	
			Page 410 lines 10-11.	

174. The method of claim 172 wherein said step of processing comprises the steps of: reading said selected datum from said storage location;	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
processing said selected datum according to a previously stored	Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to ...	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...

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software program to generate a user specific video graphic, said user specific video graphic conveying information related to said unit of programming and specific to a user; and	<p>Column 19 lines 48-53.</p>	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks'</p>	<p>Page 21 lines 20-23.</p> <p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p> <p>Page 451 line 3.</p>	<p>Microcomputer, 205, is preprogrammed to ... respond ... to ...</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>And the Fig. 1C combining is displayed.</p>

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		performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
storing said generated video graphic.	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p> <p>Page 25 lines 26-33.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is</p>
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		

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	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did."
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175. The method of claim 172, wherein said embedded data comprises prices for each of a plurality of stock or financial shares;	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-35.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a
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said step of selecting comprises the step of selecting prices of shares in a stock or financial portfolio of a user;	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	predetermined fashion. Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
said step of storing comprises storing said selected prices of said shares;	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
wherein said step of processing comprises the steps of: (a) calculating, under computer control, performance said user's stock or financial portfolio based on said selected prices; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(b) generating, under computer control, a graphic representing said performance of said stock or financial portfolio.	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, ...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV

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				monitor, 202M.
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176. The method of claim 175 wherein said step of generating comprises the step of generating a plurality of user specific graphic overlays representing said performance of said stock or financial portfolio;	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Page 27 lines 7-9 and Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions. Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of these portions be recalculated for subsequent overlays would be inefficient. In computer-based combined medium communications, the amount of information

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	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	<p>portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>And the Fig. 1C combining is displayed.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>
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177. The method of claim 153 further comprising the step of selecting one of a plurality of storage devices at said receiver station and selecting a storage location in said selected one of a plurality of storage devices for storing said data,	Column 11 lines 57-61.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 line 2-15.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ...</p>
wherein said step of storing comprises storing said selected	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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datum at said selected storage location on said selected storage device.				
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178. A method of processing data at a receiver station,	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
said receiver station comprising a television monitor for displaying television programming,	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
at least one processor and a plurality of storage locations, said method comprising the steps of:	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
receiving a carrier transmission;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
	Column 18 lines 47-48.	... and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 5-6.	... and to receive and process automatically news items about said stocks and about the industries of said stocks.
demodulating said	Column 18 lines 59-62.	When [signal processor, 200] identifies a	Page 422 line 33 to	...cause said controller, 39, to load the binary

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carrier transmission to detect an information transmission thereon,		signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 423 line 10.	information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
said information transmission comprising embedded data and	Column 6 lines 45-48.	The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal.	Page 34 lines 31-35.	The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal.
at least one control signal;	Column 18 lines 47-48.	... and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 5-6.	... and to receive and process automatically news items about said stocks and about the industries of said stocks.
	Column 18 lines 55-58.	... microcomputer, 205, instructs signal processor, 200, to hold examples of the sought for unique signals in its buffer/comparator, 8, and compare them with all incoming signals.	Page 288 lines 13-20.	As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
	Page 420 lines 6-20.			The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ... One company whose stock is

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				<p>preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...</p>
			<p>Page 422 lines 33 to Page 423 line 4.</p>	
			<p>Page 422 line 23 to page 423 line 10.</p>	<p>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.</p> <p>In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p>
<p>detecting said embedded data and said at least one control signal on said information transmission;</p>	<p>Column 18 lines 58-62.</p>	<p>Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.</p>	<p>Page 267 lines 20-28 from example #5.</p>	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said</p>

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				microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
selecting at least one datum of said detected embedded data; and	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ... Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
storing said selected at least one datum at a storage location of a storage device that is not communicating or outputting said detected embedded data to said television monitor;	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)
processing said at least one datum in response to said at least one control signal; and	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ... Then receiving a particular to-223 instruction from said control processor, 20A, causes

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	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p>	<p>controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
outputting processed information of said at	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so

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least one datum to a subscriber.	Column 19 lines 67 to column 20 line 2.	printer, 221, for printing ... The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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179. The method of claim 178 wherein said data comprises digital data,	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal
	Column 6 lines 64-67.	The digital detector, 37, through standard detection techniques well known in the art, determines whether a particular signal is	Page 35 lines 24-27.	

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said step of demodulating comprises the step of demodulating said carrier transmission to detect an information transmission thereon,	Column 6 lines 42-50.	<p>present in the transmission in a predetermined fashion.</p> <p>Decoder 30 is shown more fully in FIG 2A. In the decoder, 30, the frequency passes first through filter 31 which defines the particular channel of interest to be analyzed. The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal. This base band signal is then transmitted through separate paths to three separate detector devices.</p>	Page 34 line 21 to page 35 line 1.	<p>information to controller, 39.</p> <p>Fig. 2A shows a TV signal decoder ... Decoder, 203, in Fig. 1 is one such TV signal decoder; decoder, 30, in Fig. 2 is another. In Fig. 2A, a selected frequency is inputted at a fixed frequency to said decoder at filter, 31, which defines the particular channel of interest to be analyzed. The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal. This base band signal is then transferred through separate paths to three separate detector devices.</p>
said information transmission comprising embedded data, a control signal and television programming; said method further comprising the steps of:	Column 18 lines 48-55.	<p>Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.</p>	Page 420 line 21 to page 421 line 7.	<p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station ...</p>
displaying said	Column 19 lines 43-44.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>	Page 21 lines 23-24.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>
	Column 19 line 53-56.	Subsequently in the program, the host says,	Page 25 lines 26-33.	During this time the program may show the

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television programming on the television monitor;		"Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
detecting the control signal in the information transmission;	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
outputting, in response to detecting said control signal, said selected datum to the television monitor to display the selected datum overlaid on the displayed television programming.	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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180. A method of processing a signal at a receiver station having a plurality of storage locations, said method comprising the steps of:	Column 18 lines 29-30. Column 18 lines 43-45.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service. Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 411 lines 10-11 Page 88 lines 19-22. Page 419 line 34 to Page 420 line 2.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage. Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
receiving a television or radio signal;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29 Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion. Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said

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			<p>radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively,</p>
		Page 15 lines 16-22	
		Page 411 lines 10-15	
		Page 418 line 23 to page 419 line 15.	
		Page 420 lines 21-29.	
	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	

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demodulating said received signal to detect an information transmission said information transmission comprising radio or television programming and embedded data;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...		that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
			Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 411 lines 10-15	
			Page 418 line 23 to	Because the information of said ... message is

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	Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	<p>page 419 line 15.</p> <p>Page 420 line 32 to page 421 line 17.</p>	<p>transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal.</p>
	Column 6 lines 45-48.	The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal.	Page 34 lines 31-35.	<p>The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal.</p>
detecting said embedded data in said information transmission;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	<p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the</p>

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		above escribed fashion.
		Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...
		Said message is detected at said decoder, 210, and inputted to said controller, 44.
		The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
		Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
		...cause said controller, 39, to load the binary

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		signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 423 line 10.	information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
selecting a specific datum of said detected data;	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	... cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
storing said selected datum;	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)

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processing said at least one datum; and	Column 18 lines 35-36.	The processors, 204 and 210, transfer this information to signal processor, 200, ...	Page 411 lines 10-15.	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 31	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
			Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 173 line 30 to page 174 line 23.	The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to

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	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>
		<p>buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>	
outputting a control signal containing processed information of said at least one datum.	Column 19 lines 63-66.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p>Page 26 lines 1-8.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and</p>

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				transmit the combined information to TV monitor, 202M. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ... Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)
	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 37 line 26 to page 38 line 8. Page 426 lines 10-18.	

181. The method of claim 180 wherein said step of receiving comprises the step of receiving a plurality of television or radio signals, each signal	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the
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comprising embedded data and being received on a different channel or frequency,	Column 18 lines 38-41.	Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 28 lines 25-35. transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. [Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
said step of selecting comprises the step of selecting a datum from each received signal,	Column 18 lines 38-41.	Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 397 lines 17-20. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ... [Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...

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said step of storing comprises the step of concurrently storing each of the selected datum.	Column 18 lines 36-37.	... for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
			Page 419 lines 4-15.	
			Page 28 lines 25-35.	

182. The method of claim 181 further comprising the steps of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
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receiving a control signal;				
detecting the control signal;	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	<p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8</p>	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
processing a plurality of said stored datum in response to detecting said control signal.	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving</p>

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
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183. The method of claim 180 wherein said at least one datum designates said radio or television programming, and said control signal controls a tuner to tune a receiver to receive said radio or television programming.	Column 18 lines 22-24.	Monitor or processor, 204, also identifies signals addressed to tuner, 213, which it transfers accordingly.	Page 408 lines 31-34. Page 95 lines 18-24.	Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209. Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform. Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency, ...
	Column 18 lines 24-25.	These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 410 lines 10-11.	

184. The method of claim 180 wherein said processed information identifies at least one of a channel or frequency spectrum contained in	Column 18 lines 24-25.	These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 410 lines 10-11.	Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency, ...
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said information transmission.				
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185. The method of claim 180 wherein said at least one datum includes a discrete signalling appearance,	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.
	Column 18 lines 22-24.	Monitor or processor, 204, also identifies signals addressed to tuner, 213, which it transfers accordingly.	Page 408 lines 31-34.	Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.
	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 95 lines 18-24.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform.
said method further comprising the step of assembling at least one of a processor instruction based on said at least one discrete signalling appearance.	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 14 line 32 to page 15 line 2.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that

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				<p>subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Page 156 line 33.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>Page 157 lines 5-7.</p> <p>Page 14 lines 22-25.</p>
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186. The method of claim 180 wherein said receiver station includes a plurality of controllable devices, said method further comprising the steps of:	Column 18 lines 4-7.	Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	Page 400 lines 19-22. Page 401 lines 14-17.	So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed. In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled)
selecting one of said plurality of controllable devices based on at least one of said at least one datum and said processed information contained in said control signal; and	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the
			Page 37 line 28 to page 38 line 8	

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				art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
passing said control signal to said selected one of said controllable devices.	Column 18 lines 4-7.	Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	Page 400 lines 19-22. Page 401 lines 14-17.	So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed. In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled)

187. The method of claim 186 wherein plurality of devices includes at least one decryptor and	Column 13 lines 13-14. Column 12 lines 20-23.	FIG 4A shows a signal processor, 100, and a programing decryptor and/or interrupt means, 101, ... (This particular embodiment could be expanded to include a decryptor, such as decryptor 10 in Fig. 1, in signals-only line between each decoder, 77, 79, 80, 84, and 88, and controller/computer, 73.)	Page 287 lines 22-27. Page 327 lines 13-15. Page 36 lines 32-33. Page 156 line 33. Page 161 lines 34-35.	As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls ... matrix switch, 258; ... decryptors, 107, 224 and 230; ... Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Fig. 3A shows one such preferred controller, 39. As Fig. 3A shows, the preferred embodiment of controller, 39, also has a decryptor, 39K.
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said control signal includes code,	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	<p>Page 291 lines 9-24</p> <p>Page 289 lines 22-27</p> <p>Page 290 lines 28-29</p> <p>Page 298 lines 17-21.</p> <p>Page 299 lines 19-22.</p>	<p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i>. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to</p>

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said method further comprising the step of decrypting at least a portion of said information transmission based on said code.	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...	Page 298 lines 10-21.	<p>decryptor, 224, ...</p> <p>Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p>
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188. A method of processing a signal at a receiver station having a plurality of storage locations, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
receiving a television or radio signal;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic

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	Column 12 lines 57-64.	demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions. This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.	Page 339 lines 9-26.	programming transmissions are received by other programming input means, 62. So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate programming and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.
demodulating said received signal to detect an information transmission thereon, said information transmission containing radio or television programming, embedded data, and at least a first control signal;	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ...

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	<p>Column 6 lines 45-48.</p> <p>Column 11 lines 32-37.</p>	<p>The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal.</p> <p>By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.</p>	<p>Page 59 lines 29-33</p> <p>Page 34 lines 31-35.</p> <p>Page 328 lines 2-7.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal.</p> <p>By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>
<p>detecting said embedded data in said information transmission, said embedded data comprising at least identification information identifying programming;</p>	<p>Column 11 lines 3-5.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	transmitted SPAM messages. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
selecting one of said plurality of storage locations;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
storing said received television or radio signal.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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189. The method of claim 188 further comprising the steps of: determining at least one of the following based on processing said embedded data: (a) when and where to receive said programming identified by said embedded data; and (b) when and over what channel or frequency to communicate said programming; and receiving or communicating said programming identified by said embedded data in accordance with said step of determining.	Column 11 lines 38-57.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ...monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded. Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to
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				<p>cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
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<p>190. The method of claim 189, further comprising the steps of: receiving a programming schedule designating for each of a plurality of programming at least one of:</p> <ul style="list-style-type: none"> (a) when and where to receive said programming; and (b) when and over what channel or frequency to communicate said 	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	<p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.</p>
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programming;	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
storing said programming schedule;	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 39-41.	... received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 line 10. Page 326 lines 28-30.	... received earlier from input, 74, and/or network, 98, computer, 73, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
said step of determining comprises the steps of: comparing said identification information of said embedded data to the programming schedule; and determining at least one of the following based on said step of comparing: (a) when and where to receive said programming; and (b) when and over what channel or frequency to communicate said programming.	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original

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			transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....	
			... monitor information that identifies what programming is available, ...	
			Meter-monitor segments contain meter information and/or monitor information.	

191. The method of claim 190 wherein said step of receiving a programming schedule comprises at least one of the following steps of: receiving said programming schedule on a carrier transmission;	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
receiving said programming schedule from a local input device; and	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
querying a remote computer to obtain said programming schedule from said remote computer.	Column 11 lines 18-21. Column 12 lines 54-56.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 326 lines 27-30. Page 337 lines 19-21.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.

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	Column 19 lines 37-39.	[Microcomputer, 205.] may receive these directly or it may automatically query a data service for them in a predetermined fashion.	Page 449 lines 26-35.	Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
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192. A method of processing a signal at a receiver station, said receiver station having a plurality of storage locations, each storage location being capable of storing information including one or more television or radio programming units, said method comprising the steps of:	Column 10 lines 24-28. Column 10 lines 42-43.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. ... one or more video recorder/players, 76 and 78, ...	Page 324 lines 18-21. Page 324 line 35.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. ... one or more recorder/players, 76 and 78, ...
receiving a television or radio signal;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and

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	Column 12 lines 57-64.	by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
		This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.
demodulating said received signal to detect an information transmission thereon, said information transmission comprising a programming unit of radio or television	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said

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programming and embedded data;	Column 6 lines 45-48.	The television channel signal is then transmitted to a standard amplitude demodulator, 32, which uses standard demodulator techniques well known in the art to define the television base band signal.	Page 59 lines 29-33 Page 34 lines 31-35.	transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. The television channel signal then passes to a standard amplitude demodulator, 32, which uses standard demodulator techniques, well known in the art, to define the television base band signal.
detecting said embedded data in said information transmission;	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7. Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
selecting a storage location;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;

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				Fig. 6 should transmit the programming of each received program unit.
				SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				... monitor information that identifies what programming is available, ...
				Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	

193. The method of claim 192 wherein said embedded data comprises an identification signal identifying said programming unit, and	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 84 lines 26-28.	

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said step of storing comprises the step of storing said programming unit and said identification signal in said selected storage location in response to detecting said identification signal.	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 28 lines 26-27. Page 49 lines 26-27. Page 329 line 2-20.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	

194. The method of claim 193, wherein said step of selecting comprises the step of selecting one of a plurality of storage devices,	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
said step of storing	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78,	Page 329 line 15-16.	... to cause said selected recorder; 76 or 78, to

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comprises the step of storing said programming unit and said identification signal in said selected storage device.		to turn on and record the programming.		turn on and record programming, ...
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195. The method of claim 194, further comprising the steps of: receiving schedule information that specifies for said programming unit, a time and a channel or frequency to communicate said unit of programming and said identification signal;	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
determining when and on which channel or frequency said stored programming unit should be communicated based on comparing said identification signal to said received schedule information;	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a

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selecting said programming unit that is stored on said selected storage device based on said identification signal;			<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted	Page 325 lines 6-9.	<p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution</p>

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	Column 12 lines 26-29.	to the field. Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	system, 93. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	
outputting said selected unit of programming from said selected storage device to communicate said programming unit according to said schedule information.	Column 11 lines 41-43. Column 10 lines 49-52.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 328 lines 11-13. Page 325 lines 6-9.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ... When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.	
196. The method of claim 195 further comprising the step of controlling a switch to connect said selected storage device to a transmitter or channel modulator to communicate said outputted programming	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and	

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unit according to said schedule information.	Column 11 lines 44-46.	multiplexing system, 92. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	multiplexing system, 92. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
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197. The method of claim 195 further comprising the step of logging communication of said programming unit based on said identification signal.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
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198. The method of claim 197 wherein said step of outputting further comprises the	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from
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step of outputting said identification signal with said programming unit, and said step of logging comprises the steps of:		cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.		the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
monitoring signals and programming output or communicated;	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
detecting outputting or communicating of said identification signal;	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
recording said identification signal of said programming unit, and a time and channel of communication.	Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 12-19.	By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.

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199. The method of claim 192 further comprising the step of logging or recording receipt of said television or radio signal.	Column 18 lines 30-37.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33. Page 38 lines 11-14.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.

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			<p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information</p>
		<p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p>	
	for recording and subsequent transmission to a remote data collection site.		

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			<p>of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
			<p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>

200. The method of claim 192 further comprising the step of logging or recording receipt of said embedded data and its storage location.	Column 14 lines 52-54.	<p>... or [the signal or signals necessary for the decryption] may be transmitted in a channel other than the channel being transferred from box, 114.</p>	<p>... said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).") ...</p> <p>... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...</p>
			<p>Page 291 lines 10-20.</p> <p>Page 289 lines 25-27.</p>

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			<p>... particular master cable control channel (that may or <i>may not be cable channel 13</i>) from the multi-channel cable system ...</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...</p> <p>Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
	Page 290 lines 28-29.		
	Page 294 lines 28-35.		
	Page 337 lines 1-19.		
	Column 12 lines 45-53.	<p>Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>	

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201. A method of processing a signal at a receiver station, said receiver station having a plurality of storage locations, each storage location being capable of storing information including one or more television or radio programming units, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. ... one or more video recorder/players, 76 and 78, ...	Page 324 lines 18-21. Page 324 line 35.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. ... one or more recorder/players, 76 and 78,...
	Column 10 lines 42-43.			
receiving a television or radio signal;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 12 lines 57-64.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here by adding radio decoder paths and other	Page 339 lines 9-26.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig.

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demodulating said received signal to detect an information transmission thereon, said information transmission comprising a unit of radio or television programming and embedded data;	Column 11 lines 3-5.	signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.		6 can process and transmit radio programming in the fashions of the above television programming by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting methods described above. Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.	
demodulating said received signal to detect an information transmission thereon, said information transmission comprising a unit of radio or television programming and embedded data;	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...		At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....	
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				<p>should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
performing the following steps if said received unit of programming should be stored or is designated for delayed communication:	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 2-20.</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
(a) selecting a storage location; and	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
(b) storing said programming unit and its embedded data in the	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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selected storage location.				
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202. A method of processing signals at a receiver station comprising the steps of:	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.
			page 450 line 27 to page 451 line 11.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C

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receiving a multichannel transmission, each received channel transmission of said multichannel transmission comprising information and an identification signal identifying said information or a source of said information;	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	is merely the first. Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
scanning a plurality of channels of said multichannel transmission for a predetermined identification signal that identifies information of interest;	Column 18 lines 58-59.	Signal processor, 200, scans sequentially all channels.	Page 422 lines 23-25.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.
detecting said predetermined identification signal on one of said plurality of channels;	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control

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identifying a channel of said detected predetermined identification signal;	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.		information transmission means and to continue functioning in the fashion of example #5. ... cause said controller, 39, to load the binary information of "I" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "I" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
tuning to said identified channel to receive said information of interest based on said step of identifying;	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ... Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
receiving said information of interest; and	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ... Then receiving a particular to-223 instruction

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				from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
storing said received information of interest.	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)

203. The method of claim 202 further comprising the steps of: processing said received information of interest according to a stored software program;	Column 19 lines 42-43.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to ...	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...
			Page 21 lines 20-23.	Microcomputer, 205, is preprogrammed to ... respond ... to ...
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
		... to generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.

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		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional computer graphic system ... for generating composite video information; for receiving said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
receiving a control signal;	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
detecting said control signal;	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,

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				and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
displaying said processed information of interest on a television monitor in response to detecting said control signal.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

204. The method of claim 202 wherein said step of storing comprises the step of storing the received information of interest with identification information identifying said information of interest, said method further comprising the steps of:	Column 18 lines 65-67. Column 4 lines 5-13.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ... These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be	Page 426 lines 10-18. Page 13 lines 25-32.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
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receiving a unit of television programming;	Column 19 line 53-56.	monitored. Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
displaying the unit of television programming on a television monitor;	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
receiving a control signal;	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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detecting the received control signal; and	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(b) processing the stored information of interest to generate a user specific graphic, said graphic conveying user specific information related to said displayed unit of programming; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 24 lines 5-16. Page 451 lines 7-11. Page 19 line 29 to page 20 line 20.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(c) outputting the graphic to the television	Column 19 lines 67 to column 20 line 2.	... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	And the Fig. 1C combining is displayed.

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monitor present a combined display on the monitor of the user specific graphic and the unit of programming.		performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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205. An apparatus for processing signals at a receiver station comprising: a receiver for receiving and demodulating a carrier transmission, said carrier transmission comprising embedded data;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
a detector operatively connected to said receiver for detecting the embedded data in the carrier transmission;	Column 18 lines 58-59. Column 6 lines 48-50.	Signal processor, 200, scans sequentially all channels. This base band signal is then transmitted through separate paths to three separate detector devices.	Page 422 lines 23-25. Page 34 line 35 to page 35 line 1.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. This base band signal is then transferred through separate paths to three separate detector devices.
a storage device having a plurality of storage locations;	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
a television monitor;	Column 19 lines 27-28.	... and also microcomputer, 205, may	Page 445 line 24 to	...instructions causes controller, 20, to switch

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				information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
(b) identifying the datum;	Column 18 lines 59-62.	When [signal processor, 200] identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
(c) storing the selected datum in the storage device with an identification signal identifying the datum to enable the subsequent identification of the datum based on the identification signal;	Column 18 lines 65-67. Column 4 lines 5-13.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ... These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to	Page 426 lines 10-18. Page 13 lines 25-32.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) The present invention employs signals embedded in programming. Embedded signals provide several advantages. They

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	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	<p>Page 33 lines 18-21.</p> <p>For example, page 300 line 32 to page 301 line 1.</p> <p>with respect to Page 301 lines 6-11.</p>	<p>recorder, 16, in a predetermined fashion and that causes controller, 20, to cause recorder, 16, to record said monitor record information in a predetermined fashion.</p> <p>... is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any ...</p> <p>... program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions ...</p> <p>At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, ...</p>
(e) identifying the stored selected datum based on the stored identification signal;	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	<p>Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.</p>
(f) processing the selected datum; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...

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		... to generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(g) displaying the processed datum on the television monitor.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

206. A method of providing data of interest to a receiver station from a remote	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a	Page 311 line 33 to page 312 line 8.	And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of
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data source,		remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.		said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...
said data of interest for use at the receiver station in generating or outputting a receiver specific datum, said method comprising the steps of:			Page 293 lines 32-35.	At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....
			Page 301 lines 6-9.	... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...
			Page 308 line 35 to page 309 line 3.	At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...
	Column 14 lines 46-54.	The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,	Page 299 lines 13-25.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, ...
		in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit

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	They may be preprogrammed into the signal processor (for example, in programable random access memory controller, 20, in Fig. 1) or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 299 lines 13-17. Page 298 line 33 to page 299 line 1. Page 293 line 20. Page 291 lines 10-20.	locations is decryption cipher key Ba ... Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ... At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Basuch as, for example, the RAM of controller, 20;said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).") said "Wall Street Week" program when transmission of said program on cable cable 13 commences.particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ... Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the
		Page 289 lines 25-27. Page 290 lines 28-29. Page 294 lines 28-35.	

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				cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
storing data at said remote data source;	Column 15 lines 22-25.	... and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	Page 312 lines 6-8.	... may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
	Column 9 lines 21-23.	[The Controller, 20] is interactive with external sources via telephone connection, 22, and ...	Page 273 lines 6-19.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to- receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20.
		... can be reprogramed from such remote sources.	Page 537 lines 6-17.	At 3:10 AM, GMT, said <i>European master network station</i> transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in

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			<p>with respect to page 555 line 24 to page 556 line 14.</p>	<p>"PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.</p> <p>...particular information of said TELEPHON.EXE module that causes ... signal processor, 200, to transmit the information ... via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.</p> <p>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said <i>European master network</i> origination and control station ... Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated ...</p>
receiving at said remote data source a query from said receiver station;	Column 15 lines 22-25.	... and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	Page 312 lines 6-8.	<p>... may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.</p>
transmitting said data from said remote data source to said receiver station in response to said step of receiving said query, said receiver station selecting and storing some of said transmitted data;	Column 15 lines 22-25.	... and [signal processors, 100, 103, 106, 109, and 112, could] telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	Page 312 lines 6-8.	<p>... may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.</p>

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	Column 9 lines 21-23.	[The Controller, 20] is interactive with external sources via telephone connection, 22, and ...	Page 273 lines 6-19.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to- receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20.
		... can be reprogramed from such remote sources.	Page 537 lines 6-17.	At 3:10 AM, GMT, said <i>European master network station</i> transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.
			with respect to page 555 line 24 to page 556 line 14.	...particular information of said TELEPHON.EXE module that causes ... signal processor, 200, to transmit the information ... via telephone network in the fashion of example #10, to a computer at a

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				<p>particular remote data collection station.</p> <p>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said <i>European master network</i> origination and control station ... Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated ...</p>
transmitting from a second remote source to said receiver station a signal which controls said receiver station to	Column 15 lines 20-22.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion ...	<p>Page 311 lines 26-28.</p> <p>Page 311 line 33 to page 312 line 2.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>And for example, the transmitted programming may be processed through fewer than three steps of decryption or more than three.</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion ...</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received</p>

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select and process an instruct signal which is effective at said receiver station to output a stored datum for processing and use with a video image.	Column 19 lines 63 to column 20 line 2.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p>	<p>information correctly ...</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>

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207. A method of processing signals at a receiver station having a computer and an output device to deliver at said output device a combined or sequential presentation of a program and a user specific output,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. ... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to ...
	Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to ...	Page 450 lines 31-32. Page 21 lines 20-23.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. And the Fig. 1C combining is displayed.
	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	

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said computer having a storage device for storing user data and said output device outputting mass medium programming and other information, said method comprising the steps of:	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
receiving a broadcast or cablecast information transmission including a first instruct signal which is effective to store a datum for subsequent processing and use with a video image;	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205,	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial

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		<p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p> <p>transmit these overlays to TV set, 202,</p>	<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p>	<p>signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
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		upon command.	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
storing user data of interest in response to said first instruct signal;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	<p>Page 23 line 35 to page 24 line 16.</p> <p>Page 451 lines 7-11.</p>	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at</p>

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		and to transmit these overlays to TV set, 202, upon command.	Page 26 lines 4-8. Page 44 lines 14-17. Page 26 lines 20-28.	the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
receiving mass medium programming from a programming	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 437 lines 1-6. Page 295 lines 6-8. Page 439 lines 9-15.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...

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source and outputting said mass medium programming at said output device;	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...
			Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
			Page 445 line 35 to page 446 line 1.	... and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
detecting a second instruct signal and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
			Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...

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passing said detected second instruct signal to said computer; and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
controlling said computer based on said detected second instruct signal, said step of controlling comprising:	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...</p>
(1) selecting a specific portion of	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the

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said stored user data of interest;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	<p>graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a</p>
		generate several graphic video overlays, ...	Page 451 lines 7-11.	
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	
		upon command.	Page 44 lines 14-17.	
			Page 26 lines 20-28.	

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				combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
(2) communicating said selected specific portion of said stored user data of interest to said output device; and subsequently	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
(3) ceasing to communicate said selected specific portion to said output device;	Column 20 lines 4-5.	... microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...	Page 27 lines 4-7.	... causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.
(4) delivering at said output device said combined or sequential output of said received mass medium programming and said selected specific portion of said stored user data of	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
interest in the period of time between said step of communicating said selected specific portion to said output device and said step of ceasing to communicate said selected specific portion to said output device.	Column 19 lines 59-60. Column 19 line 67 to column 20 line 1.	Then the host says, "And here is what your portfolio did." The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 25 lines 33-34. Page 26 lines 8-11.	Then the host says, "And here is what your portfolio did." TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...

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208. A method of controlling one or more of a plurality of receiver stations each of which includes	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
a television receiver,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 470 lines 1-3 and	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."
			Page 470 lines 9-12.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is ...
a signal detector,		... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 470 lines 19-21.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
	Column 20 lines 27-29.		Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
at least one computer or processor, and with	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 472 lines 4-12.	... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber

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<p>each said receiver station adapted to detect the presence of one or more control signals and</p>	<p>Column 20 lines 27-32.</p>	<p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...</p>	<p>Page 471 line 26 to page 472 line 17.</p>	<p>station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p>
<p>to input a subscriber reaction to a specific offer communicated in a television program, said method of controlling comprising the steps of:</p>	<p>Column 20 lines 19-26.</p>	<p>Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...</p>	<p>Page 471 lines 6-25.</p>	<p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to</p>

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				the controller, 20, of the signal processor, 200, of said station. Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
receiving code or	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
datum at a transmitter station, said code or datum	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
designates (i) a product or service offered in said television program or (ii) said subscriber reaction;	Column 20 lines 31-36.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said

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		digital form ...	<p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
receiving one or more	Column 10 lines 61-64.	Incoming programming transmissions are	Page 324 lines 23-33.	The station receives programming from many

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Reference	Language	Reference	Language	Reference
control signals at said transmitter station, said one or more control signals at said one or more receiver stations operate to	<p>received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.</p> <p>Column 4 lines 5-6.</p> <p>Column 20 lines 27-31.</p> <p>Column 19 lines 48-53.</p>	<p>These techniques employ signals embedded in programs.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...</p> <p>These signals instruct microcomputer, 205, ...</p>	<p>sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>The present invention employs signals embedded in programming.</p> <p>Page 13 lines 25-26.</p> <p>Page 471 line 26 to page 472 line 17.</p> <p>Page 24 lines 5-16.</p>	<p>... sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>The present invention employs signals embedded in programming.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p>

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at a specific time; and	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	The present invention employs signals embedded in programming.
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 20 line 27.	Five minutes later, ...	Page 471 lines 26-28.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
				Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
transmitting said code or datum and said one or more control signal from said transmitter station.	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
	Column 4 lines 5-6.	These techniques employ signals	Page 13 lines 25-26.	The present invention employs signals

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	Column 2 lines 63-66.	embedded in programs. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	embedded in programming. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programming on TV set, 202 , by decoder, 203 , which is also transferred by processor, 204 , to buffer/comparator, 8 , of signal processor, 200 . This signal instructs buffer/comparator, 8 , that, if 567 has been received from signal generator, 225 , signal processor, 200 , should, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145 , and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20 , of signal processor, 200 Receiving said message causes controller, 20 , to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20 , to determine that TV567# information exists at said last-local-input-# memory and to cause ...

209. A method of processing signals to control a subsequent presentation of television programming comprising the steps of:	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including
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<p>which is to be effective to select and store a datum for processing and use with said television signal; selecting one of:</p>	<p>Column 11 lines 60-61.</p> <p>Column 11 lines 38-43.</p>	<p>... controller/computer, 73, selects a video recorder/player, 76 or 78, ...</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 329 lines 13-15.</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(1) a time at which to	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For

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communicate said instruct signal; and		Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	(2) a location to which to communicate said first instruct signal;	Column 11 lines 60-61. Column 11 lines 61-64.	... controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-15. Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
communicating said instruct signal at said selected time or to said selected location; and		Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program

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		incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...		unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
storing said television signal and said instruct signal at said storage device,	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
wherein said method processes signals to control said subsequent presentation of said television programming.	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including

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				television, radio, print, data, and combined medium programming ...
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210. A method of communicating data and update material to one or more mass medium programming receiver stations each of which includes	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
			Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.

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a broadcast or cablecast data receiver,	Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.
a data storage device,	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.
a control signal detector,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.
		Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ... Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark. Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	

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a computer capable of processing data, and with each said receiver station adapted	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.
to detect and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.
respond to one or more instruct signals and to	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.
store data for subsequent processing, said method comprising the steps of:	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.
		Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs)	

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				<p>and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
			<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	
receiving data to be transmitted and	Column 10 lines 30-39.	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56.</p> <p>Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59.</p> <p>Conventional TV broadcast transmissions</p>	<p>Page 324 lines 23-31.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV</p>

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delivering said data to a transmitter;	Column 19 lines 43-44.	can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions. ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24. Page 324 line 31 to page 325 line 4.	demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. ... instruction signals embedded in the "Wall Street Week" programming transmission. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
receiving one or more instruct signals	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
which at said one or more receiver stations are effective to store a	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...

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datum for subsequent processing and use with a video image;	<p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p> <p>Column 19 lines 59-60.</p> <p>Column 19 lines 67 to column 20 line 2.</p>	<p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>And the Fig. 1C combining is displayed.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>	<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p> <p>Page 25 lines 33-34.</p> <p>Page 451 line 3.</p> <p>Page 26 lines 8-11.</p>	<p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a</p>
transferring said one or more instruct signals to a transmitter; and	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here	Page 324 line 31 to page 325 line 4.	

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	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 44 lines 14-17.	<p>"program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
			Page 26 lines 20-28.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
			Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	

211. An interactive method for data promotion and	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes
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delivery for use with	Column 20 lines 46-49.	only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 473 lines 3-13.	and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
		When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 477 lines 12-17.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe-... instructions ...
			Page 477 lines 23-29.	... selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission....
			Page 478 lines 1-5.	... causes ... said decoder, 290, to detect and process properly the information of said second message.
			Page 475 lines 1-2.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
			Page 390 lines 30-35.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
an interactive mass medium program output apparatus comprising the steps of:	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types		Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming

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		of co-ordinated presentations that the signal apparatus and methods described here can permit.		such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
outputting a mass medium program that promotes data, said interactive mass medium program output apparatus having	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 396 lines 8-10. Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
an input device to receive input from a subscriber;	Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
prompting said subscriber during said mass medium program whether said subscriber wants said data promoted in said step of displaying,	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
said interactive mass medium program output apparatus having	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for	Page 473 lines 3-13.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and

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an output device for outputting said data;			decryption and thence to printer, 221, for printing.	Page 477 lines 12-17.	transmits a particular second SPAM message that consists of ... generate-recipe-... instructions selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission.... ... causes ... said decoder, 290, to detect and process properly the information of said second message. (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
receiving a reply from said subscriber at said input device in response to said step of prompting said subscriber, said interactive mass medium program output apparatus having	Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...		Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
a processor for processing said subscriber reply and controlling delivery of said data in response to instructions;	Column 20 lines 31-36.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate		Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...

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		channel to receive the recipe in encoded digital form ...	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>	<p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>
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delivering instructions at said interactive mass medium program output apparatus	Column 7 lines 39-49.	In a pre-determined fashion, buffer/comparator, 8, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decrypter, 10. Decrypter, 10, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required. Decrypter, 10, then passes the decrypted signals to processor or monitor, 12. Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 472 lines 13-23.	Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of particular covert control information (which is preprogrammed in said instructions) to be placed at particular control-function-invoking information memory of the controller, 39, of decoder, 145, and also at particular control-function-invoking information memory of the controller, 39, of decoder, 203.
in response to said step of receiving a reply,	Column 20 lines 31-33.	... that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, ...	Page 473 lines 14-17.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred .. controller, 20, to determine that TV567# information exists at said last-local-input-# memory ... (At stations where TV567# information does not exist at last-local-input-# memory of the controllers, 20, said instructions cause said controllers, 20, to cease executing and delete all information of said instructions without placing any information at the decoders, 145 and 203, ...
said instructions controlling said interactive mass medium program output apparatus;	Column 7 lines 50-54.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both.	Page 473 lines 14-19.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 39, of decoder, 203. Automatically, the controller, 39, of decoder, 145, transmits ...

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processing said instructions from said step of delivering, said instructions effective to receive and store said data; and	Column 7 lines 50-58.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission.	Page 473 lines 29-31.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...
delivering said data	Column 20 lines 48-49.	... and thence to printer, 221, for printing.	Page 475 lines 1-2.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
on the basis of said instructions.	Column 20 lines 33-36. Column 20 lines 36-37.	... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	Page 473 lines 18-31.	Automatically, the controller, 39, of decoder, 145, transmits particular switching request information to the control processor, 20A, of signal processor, 200, via the aforementioned control information bus means. Receiving said information causes control processor, 20A, to cause matrix switch, 259, to establish a communications link between the controller, 39, of decoder, 145, and the controller, 39, of decoder, 203. Automatically, said controller, 39, of decoder, 145, transfers said message to the controller, 39, of decoder, 203. Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...

212. The method of claim 211, wherein information evidencing the availability, use or usage of said mass	Column 18 lines 30-41.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information
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medium program or said data are stored or communicated to a remote data collection station, said method further comprising the step of selecting evidence information that identifies or designates one or more of:		set, 202, and radio, 209, are tuned,	Page 414 lines 13-27	<p>of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p>
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 15 lines 16-22	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 36 lines 32-33.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 38 lines 11-14.	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 411 lines 10-15	

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		<p>for recording and subsequent transmission to a remote data collection site.</p>	<p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p>	<p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to</p>

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			Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 28 lines 25-35.	initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission. [Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
(1)	a mass medium program;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial. For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 49 lines 26-28. Page 50 lines 6-7. Page 319 lines 30-33.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...unique identifier codes for each program unit (including commercials);.... For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2)	a use of programming;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ...

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(3) a transmission station;	Column 15 lines 60-62.	respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ... [The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) a receiver station;	Column 16 lines 56-61.	... and, in a predetermined fashion, create a signal string by appending digital information to the received signal which information might	Page 180 lines 1-3. Page 297 line 15. Page 180 lines 4-15.	Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming. ...creating a meter record that records the decryption.... Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record.... In a predetermined fashion, onboard controller, 14A, also records in a particular

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		time of receipt at signal processor, 130.		monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...
(5) a network;	Column 16 lines 32-35. Column 16 lines 39-41.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 319 lines 30-33. Page 320 lines 2-8.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) a channel on a cable system;	Column 16 lines 35-41.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 319 line 33 to page 320 line 8.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said

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				meter-monitor information would cause recorder, 217, to record said information.
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) a unique identifier datum;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28. Page 50 lines 6-7.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique identifier codes for each program unit (including commercials);....
(10) a source or supplier of data;	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
(11) a distributor or an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertisements, etc.	Page 321 lines 1-6. Page 360 lines 31-34. Page 496 lines 12-13.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can For example, another of the aforementioned discounts and cents-off coupon specials is of a particular product ... that is advertised ... At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:

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			Page 496 lines 28-35.	<p>.....</p> <p>15 cents off 15 cents off</p> <p>Nabisco Zweiback Teething Toast</p> <p>.....</p>
(12) an indication of a payment obligation.	column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.</p>	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>

213. The method of claim 211, wherein said instructions incorporate executable code said method further comprising the steps of communicating said executable code to said processor and performing, on the basis of said executable code, one step selected from the group consisting of:	Column 7 lines 50-58.	<p>Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission.</p>	Page 473 lines 29-31.	<p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...</p>
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	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	
(1) receiving a signal containing said data;	Column 20 lines 33-36. ... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	Column 20 lines 48-49. ... and thence to printer, 221, for printing.	Page 476 line 34 to page 477 line 8. Page 477 lines 8-17.	(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station. In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....	
(2) actuating a video, audio, or print output device, as		Receiving said output information causes printer, 221, to print the information of said specific recipe and list.	Page 475 lines 1-2.		

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appropriate, to output said data;	Column 19 lines 27-28. Column 18 lines 19-22.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ... These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.	Page 445 line 24 to page 446 line 1. Page 410 lines 10-11.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209, ...
(3) decrypting at least a portion of said data;	Column 20 lines 41-42.	... to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
(4) controlling a selective transmission device to communicate said selected specific output to said selected specific output device;	Column 11 lines 38-43.	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

Claim Language	Reference	Language	Reference	Support to instant specification... Language
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>(5) generating a receiver specific datum to present with said data; and</p>	<p>Column 19 lines 48-53.</p>	<p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>

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(6) delivering a receiver specific datum at said interactive mass medium program output apparatus simultaneously or sequentially with said mass medium program or said data.	Column 19 line 67 to column 20 line 7.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, and prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed. As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.
			Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio-- eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the

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				<p>overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
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214. A method of presenting user specific programming at	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
a receiver station, said receiver station including	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
a receiver,	Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
			Page 445 line 35 to page 446 line 1.	... and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and

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a detector,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio.... Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
a computer, and	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
at least one output device, said method comprising the steps of:	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
receiving first data and	Column 19 lines 35-37.	Each weekday, microcomputer, 205,	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote

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first television programming,	receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...	stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
said first television programming including audio,	Column 19 lines 45-46. Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 451 lines 6-7. Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
said first television programming to be outputted for a duration of time,	See col. 19 line 45 through col. 20 line 7 which discloses the passage of time.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated	See page 21 line 32 (especially page 25 line 23) through page 27 line 9 which discloses the passage of time. Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the
only a portion of said duration containing at least a first time interval of specific relevance,	Column 19 line 67 to column 20 line 5.			

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at least a first of said first data and said first television programming being received from		<p>graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.</p>	
	<p>Column 19 lines 35-41.</p>	<p>Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.</p>	<p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p> <p>Page 449 lines 13-35.</p>	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the A T&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p> <p>Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to</p>

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at least a first remote transmitter station;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	<p>telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p>
delivering at least said audio to said at least one output device for output to a user;	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>
detecting said first data before	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the

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a first time period during which user specific information will be processed;		See col. 19 line 48 through col. 20 line 5 during which: Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	See page 24 line 2 through page 27 line 2 during which: Page 26 lines 8-11.	particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
delivering said first data to said computer;		Column 19 lines 39-41.	[Microcomputer, 205.] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
generating second data to serve as a basis for delivering said user specific programming by processing at least		Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
a first of said first data in said first time period;		Column 19 lines 39-41.	[Microcomputer, 205.] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...

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					fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
selecting third data based on said step of generating said second data;	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...		Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
communicating at least a first of said third data to said at least one output devices before the end of said first time interval of specific relevance; and	Column 19 line 67 to column 20 line 5.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...		Page 26 lines 8-11. Page 451 line 3. Page 26 line 33 to page 27 line 7.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed. As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.
outputting said user specific programming,	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks'		Page 451 line 3.	And the Fig. 1C combining is displayed.

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said user specific programming including at least said audio and said at least a first of said third data.		performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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215. A method of delivering user specific programming	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
at one or more receiver stations, each of said one or more receiver stations including a receiver,	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
an output device,	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 396 lines 8-10. Page 445 line 24 to page 446 line 1.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said

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a control signal detector,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred, and to transfer said signals to said apparatus.
a processor operably connected to said output device, and with each of said one or more receiver stations adapted	Column 6 lines 48-50. Column 19 lines 64-66.	This base band signal is then transmitted through separate paths to three separate detector devices. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 34 line 35 to page 35 line 1. Page 26 lines 1-8.	This base band signal is then transferred through separate paths to three separate detector devices. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
to detect first data and	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-35.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.

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generate second data, said second data to serve as a basis for communicating user specific information, said method of communicating comprising the steps of:	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11. Page 26 lines 4-10.	<p>(Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p> <p>Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...</p>
receiving one or more of	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53,

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(i) said first data, and	Column 18 lines 46-48.	paths described above.		54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 18 lines 48-51.	... microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 3-6.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.
	Column 19 lines 24-25.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
(ii) television programming	Column 10 lines 24-28.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
at one or more		FIGS. 3A, 3B and 3C illustrates one	Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
			Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing

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transmitter stations,		instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.		Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
said television programming to be outputted for a duration of time,	See col. 19 line 45 through col. 20 line 7 which discloses the passage of time.		See page 21 line 32 (especially page 25 line 23) through page 27 line 9 which discloses the passage of time.	
only a portion of said duration containing a time interval of specific relevance;	Column 19 line 67 to column 20 line 5.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...	Page 26 lines 8-11. Page 451 line 3. Page 26 line 33 to page 27 line 7.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed. As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.
transferring said one or more of (i) said first data, and (ii) television programming to one or more transmitters at a specific time; and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73,

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		switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
transmitting from said one or more transmitter stations one or more information transmissions comprising said one or more of	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...	Page 337 lines 3-10.	In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...
(i) said first data, and	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)

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(ii) television programming.		Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
				Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
216. A method of delivering user specific programming		Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	at one or more receiver stations, each of said one or more receiver stations including	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration,	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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a receiver,	Column 19 lines 28-29.	first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. ...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 396 lines 8-10. Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. ... and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio.... ... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
an output device,	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...
a control signal detector,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate	Page 34 line 35 to page 35 line 1.	This base band signal is then transferred through separate paths to three separate

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a processor operably connected to said output device, and with each of said one or more receiver stations adapted	Column 19 lines 64-66.	<p>detector devices.</p> <p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...</p>	Page 26 lines 1-8.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
to detect first data and	Column 19 lines 35-41.	<p>Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.</p>	Page 449 lines 13-35.	<p>Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the A T&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer,</p>

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		Reference	Language	Reference	Language
<p>generate second data, said second data to serve as a basis for communicating user specific information, said method of communicating comprising the steps of:</p>	<p>Column 19 line 67 to column 20 line 1.</p> <p>Column 19 line 64 to column 20 line 1.</p>	<p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p> <p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 8-11.</p> <p>Page 26 lines 4-10.</p>	<p>205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...</p>	
	<p>Column 10 lines 61-64.</p> <p>Column 18 lines 46-48.</p>	<p>Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.</p> <p>... microprocessor, 205, is programmed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.</p>	<p>Page 324 lines 23-33.</p> <p>Page 420 lines 3-6.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks and to receive and process automatically news items about said stocks and about the industries of said stocks.</p>	
<p>receiving one or more of</p> <p>(i) said first data, and</p>					

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(ii) television programming at one or more transmitter stations, said television programming to be outputted for a duration of time, only a portion of said duration containing a time interval of specific relevance;		Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
		Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
		Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
		See col. 19 line 45 through col. 20 line 7 which discloses the passage of time.		Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
		Column 19 line 67 to column 20 line 5.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction	See page 21 line 32 (especially page 25 line 23) through page 27 line 9 which discloses the passage of time. Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

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	Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 9-26.	<p>so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...</p>
transmitting from said one or more transmitter stations one or more information transmissions comprising said one or more of	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...	Page 337 lines 3-10.	<p>In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station ...</p>
(i) said first data, and	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific</p>

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(ii) television programming.	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	information of interest in the fashion in which remote news-service-A station transmitted the A T&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 446 lines 17-21.	

217. A method of presenting user specific programming	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
at a receiver station, said receiver station including	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration,	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a receiver,	Column 19 lines 28-29.	first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. ...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 396 lines 8-10. Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. ... and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
a detector,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
a computer, and	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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at least one output device, said method comprising the steps of:	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
receiving one or more information transmissions containing first data	Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.

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		Reference	Language	Reference	Language
and first television programming, said first television programming to be outputted for a duration of time,	See col. 19 line 45 through col. 20 line 7 which discloses the passage of time.			See page 21 line 32 (especially page 25 line 23) through page 27 line 9 which discloses the passage of time.	
only a portion of said duration containing at least a first time interval of specific relevance,	Column 19 line 67 to column 20 line 5.		The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...	Page 26 lines 8-11. Page 451 line 3. Page 26 line 33 to page 27 line 7.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed. As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.
at least one of said first data and said first television programming being received from	Column 19 lines 35-41.		Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-35.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
at least a first remote transmitter station;	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
selecting and	Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to	Page 445 line 35 to	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
		...and to tune monitor, 202M, in a		

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<p>delivering said first television programming to said at least one output device for output to said user;</p>	<p>Column 19 lines 27-29.</p>	<p>"Wall Street Week."</p> <p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
<p>detecting said first data before</p>	<p>Column 19 lines 35-37.</p>	<p>Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.</p>	<p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the</p>

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a first time period during which user specific information will be processed and delivering said first data to said computer;	See col. 19 line 48 through col. 20 line 5 during which: Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		See page 24 line 2 through page 27 line 2 during which: Page 26 lines 8-11.	AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
generating second data to serve as a basis for delivering said user specific programming by processing at least one of said first data in said first time period;	Column 19 line 67 to column 20 line 1. Column 19 lines 39-41.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ... [Microcomputer, 205.] records those prices that relate to the stocks in its stored portfolio.		Page 26 lines 8-11. Page 449 lines 13-20.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ... Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
communicating said second data to said at least one output device before the end of said first time interval of specific relevance	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
based on said step of	Column 19 lines 48-53.	These signals instruct microcomputer, 205,		Page 23 line 35 to page	Subsequently, a second series of instructions

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generating second data; and		<p>to</p> <p>generate several graphic video overlays, ...</p> <p>and to transmit these overlays to TV set, 202,</p> <p>upon command.</p>	<p>24 line 16.</p> <p>Page 451 lines 7-11.</p> <p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command ...</p>

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outputting said user specific programming, said user specific programming comprising said first television programming and said second data.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
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218. A method of processing signals at at least one receiver station, said at least one receiver station including a computer for at least one of responding to commands and controlling communication of at least one of signals and information, said method comprising the steps of:	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
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inputting at least one control instruction, said at least one control instruction controlling at least one of processing and communication of at least one of television, radio, video, audio, data, multimedia, and computer programming, wherein said at least one control instruction includes at least one of:	Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to ...	Page 450 lines 31-32. Page 21 lines 20-23.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to ...
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 19 lines 42-53.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 450 lines 31-32. Page 21 lines 20-24.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
		When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by	Page 451 lines 6-7. Page 23 line 35 to	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions

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		<p>decoder, 203, and transferred to microcomputer, 205.</p> <p>These signals instruct microcomputer, 205,</p> <p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202,</p>	<p>page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating</p>		

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		has the means to receive and display, and to transmit these overlays to TV set, 202,	computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.	
		upon command.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a ... (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)	Page 26 lines 4-8. Page 44 lines 14-17. Page 26 lines 20-28.
(a) a switch control instruction to	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Computer, 73, monitors incoming programming by means of the aforementioned	Page 327 line 35 to page 328 line 13.

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control operation of a switch to control routing and communication of said at least one of television, radio, video, audio, data, multimedia, and computer programming;				dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available , ... Meter-monitor segments contain meter information and/or monitor information. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 49 lines 26-27. Page 328 line 31 to page 329 line 1.	
(b) a timing control instruction to control at least one of	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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timing and time of communication of said at least one of television, radio, video, audio, data, multimedia, and computer programming; and				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, ...</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 49 lines 26-27.	
	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 lines 33-35. Page 326 line 33 to page 327 line 2.	
(c) a locating control instruction to at	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded

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least one of control and allow said computer to at least one of locate and identify said at least one of television, radio, video, audio, data, multimedia, and computer programming;	Column 11 lines 38-39.	such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	By comparing identification signals on the incoming programming ...	signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.	
				Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.

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	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
receiving said at least one of television, radio, video, audio, data, multimedia, and computer programming, wherein said inputted at least one control instruction provides at least one of instruction and information as to	Column 10 line 64 to column 11 line 3.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93. The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 17-27.	In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix

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processing of said received at least one of television, radio, video, audio, data, multimedia, and computer programming;			Page 324 line 31 to page 325 line 2.	switch, 75. The other path inputs the transmission of said given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...
storing said received at least one of television, radio, video, audio, data, multimedia, and computer programming; and	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
storing said at least one control instruction with said at least one of television, radio, video, audio, data, multimedia, and computer programming to enable said computer to subsequently at least one of communicate and process said at least one of television, radio, video, audio, data, multimedia, and computer programming in accordance with said at least one control instruction.	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of

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	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 84 lines 26-28.	each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.

219. The method of claim 218 further comprising the step of: communicating said stored at least one of	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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television, radio, video, audio, data, multimedia, and computer programming in accordance with said at least one control instruction.	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed

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		for delayed transmission.		transmission.
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220. The method of claim 218, wherein said step of storing includes the steps of: embedding said at least one control instruction in said at least one of television, radio, video, audio, data, multimedia, and computer programming; and	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
storing said at least one of television, radio, video, audio, data, and multimedia, and computer programming and said embedded at least one control instruction.	Column 4 lines 5-13. Column 11 lines 57-64.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored. Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 13 lines 25-32. Page 329 line 2-20.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular

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				preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
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221. A method of processing signals at a receiver station, said receiver station including a plurality of storage locations and a receiver for receiving at least one of a broadcast transmission and a cablecast transmission, wherein each of said plurality of storage locations is capable of storing programming, and wherein said receiver station has a computer for communicating said programming selectively between each of said plurality of storage locations, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to

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				configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording

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			<p>computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p>	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p>	

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inputting at least one of television, radio, video, audio, data, multimedia, and computer programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
storing said inputted at least one of	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix

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television, radio, video, audio, data, multimedia, and computer programming at one of said plurality of storage locations;		switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...		switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
receiving a carrier transmission;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
demodulating said carrier transmission to detect an information transmission thereon, said information transmission including at least one control instruction, wherein said at least one control instruction includes one of:	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
(a) a switch control instruction;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has

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(c) a locating control instruction;					Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
		Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can

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				determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available , ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programing.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information

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detecting said at least one control instruction on said information transmission, said at least one control instruction providing information as to processing of said stored at least one of television, radio, video, audio, data, multimedia, and computer programming;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	<p>matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.</p> <p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>
storing said at least one control instruction at said one of said plurality of storage locations with said stored at least one of television, radio, video, audio, data, multimedia, and computer programming enabling said computer to at least one of locate, process, and communicate said at least one of television, radio, video, audio, data, multimedia, and computer programming at a specific time or in a specific manner in accordance with said at least one control	Column 11 lines 38-65.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator,</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate</p>

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instruction.		<p>87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 14 to page 329 line 1.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions....</p> <p>...monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.</p> <p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>

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			Page 329 lines 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p>
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222. The method of claim 221, wherein said instruction includes locating control instruction, wherein said locating control instruction comprises an identification code identifying said at least one of television, radio, video, audio, data, multimedia, and computer programming stored with said identification code at said one of said plurality of storage locations.	Column 4 lines 5-13. Column 19 line 30. Column 10 lines 42-43.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored. Co-ordinating Multimedia Presentations in Time ... one or more video recorder/players, 76 and 78, ...	Page 13 lines 25-32. <i>See generally</i> page 447 line 25 to page 457 line 10. Page 324 line 35. Controlling Computer-based Combined Media Operations ... one or more recorder/players, 76 and 78, ...
223. A method of processing signals at a receiver station, said receiver station including at least one of a television receiver, a radio receiver, a telephone receiver, and a data receiver for receiving an information transmission including programming, said programming including at least one of television programming, radio programming, video programming, audio programming, data	Column 10 lines 24-39.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B and 3C illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming. The means for and method of transmission of programming described here is well known in the art. The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. The means and methods for transmitting conventional programming are well known in the art. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.

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programming, multimedia programming, and computer programming, wherein said receiver station also includes a storage location for storing said programming, said method comprising the steps of:	Column 19 line 30.	demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	See generally page 447 line 25 to page 457 line 10.	Controlling Computer-based Combined Media Operations ... one or more recorder/players, 76 and 78,...
	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	
inputting and storing at least one control instruction including at least one of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

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			<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
			<p>... monitor information that identifies what programming is available, ...</p>
			<p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to</p>
	Page 84 lines 26-28.		
	Page 28 lines 26-27.		
	Page 49 lines 26-27.		
	Page 329 line 2-20.		
		<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	
	Column 11 lines 57-64.		

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	Column 4 lines 5-13.	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.</p>	Page 13 lines 25-32.	<p>configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
	Column 8 lines 58-60.	<p>Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.</p>	Page 290 lines 26-31.	<p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p>
			Page 291 lines 21-24.	<p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p>
			Page 59 lines 29-31.	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p>
(1) an instruction to contact a remote telephone unit;	Column 8 lines 60-62.	<p>An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.</p>	Page 402 lines 22-26.	<p>... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said</p>

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			<p>decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p>	<p>decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p>
(2) an instruction to look for a signal in a predetermined fashion;	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	<p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p>	<p>... is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any ...</p> <p>... program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions ...</p> <p>At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have</p>
			<p>Page 33 lines 18-21.</p> <p>For example, page 300 line 32 to page 301 line 1.</p> <p>with respect to Page 301 lines 6-11.</p>	

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		pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.		<p>controller, 12, a particular <i>transfer-decrypted-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key.</p> <p>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer-and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.</p>
			Page 150 lines 7-9.	<p>Under control of said <i>transfer-and-meter instructions</i>, controller, 12, commences receiving decrypted information of the second message from decryptor, 10.</p>
			Page 150 lines 16-21.	<p>Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.</p>
			Page 152 line 18 to page 153 line 1.	<p>Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of said <i>transfer-and-meter instructions</i>, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd</p>

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(6) an instruction to pass a signal externally;	Column 9 lines 65-68.	[Controller, 20] instructs processor or monitor, 12, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.	Page 149 lines 8-16.	meter information (#2).") Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular <i>transfer-decrypt-ed-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key. Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer- and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.
			Page 150 lines 7-9.	Under control of said <i>transfer-and-meter instructions</i> , controller, 12, commences receiving decrypted information of the second message from decryptor, 10.
			Page 150 lines 16-21.	Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.
			Page 152 line 18 to page 153 line 1.	Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of said <i>transfer-and-meter instructions</i> , to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory,

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(7) an instruction to identify where to pass a signal;		Column 9 lines 65-68.	[Controller, 20] instructs processor or monitor, 12, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.		which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).")
				Page 149 lines 8-16.	Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular <i>transfer-decrypted-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key. Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer-and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.
				Page 150 lines 7-9.	Under control of said <i>transfer-and-meter instructions</i> , controller, 12, commences receiving decrypted information of the second message from decryptor, 10.
				Page 150 lines 16-21.	Automatically controller, 12, processes said information of the second message of example #2 as a SPAM command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.
				Page 152 line 18 to page 153 line 1.	Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of said <i>transfer-and-meter instructions</i> , to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies

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(8) an instruction to discard a signal;	Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	<p>Page 32 lines 20-21.</p> <p>Page 223 lines 22-33.</p> <p>Page 224 lines 12-18.</p>	<p>controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark-@12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).")</p> <p>Buffer/comparator, 14, operates under control of controller, 20, ...</p> <p>Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.</p>
(9) an instruction	Column 9 line 68 to	The controller, 20, instructs	Page 32 lines 20-21.	Buffer/comparator, 14, operates under control

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to mark a signal;	column 10 line 2.	buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	Page 223 lines 22-33.	of controller, 20, ... Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information from (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.	
(10) an instruction to assemble a signal string;	Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	Page 224 lines 12-18.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.	
			Page 32 lines 20-21. Page 223 lines 22-33.	Buffer/comparator, 14, operates under control of controller, 20, ... Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information	

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(11) an instruction to configure a switch;	Column 11 lines 38-39.		Page 224 lines 12-18.	<p>(#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.</p>
(11) an instruction to configure a switch;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in</p>

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	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 31 to page 329 line 1.</p>	<p>television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
(12) an instruction to transfer a signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming</p>

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		Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 31 to page 329 line 1.</p>	<p>transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
(13)	an instruction to store a signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>

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	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 lines 13-20.</p>	<p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
(14) an instruction to remove a signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what</p>

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		Column 12 lines 35-38	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, ...	Page 49 lines 26-27. Page 354 lines 18-21.	programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required,...
(15)	an instruction to add a signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter

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	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	information and/or monitor information. ... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
(16) an instruction to decrypt a signal;	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...	Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
(17) an instruction not to decrypt a signal;	Column 13 lines 26-27.	... or [the signal or signals instruct decrypter/interrupter, 101,] not to decrypt the transmission or to interrupt the transmission ...	Page 300 lines 30-32. Page 301 lines 1-3. At a station where Page 301 lines 4-31.	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW-program instructions, to cause the control processor, 39J ... A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly. (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information

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				<p>of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to <i>cause all information of said 1st-WSW-program-enabling-message (#7) to be erased</i> from all memory of said station ... thereby disabling said apparatus.)</p> <p>... a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions ... (Hereinafter said message is called the "<i>1st-WSW-program-enabling-message (#7).</i>")</p> <p><i>Resulting in a match causes controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions.</i></p> <p>... microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.</p>
			<p>with respect to page 297 lines 23-29,</p> <p>Thus preventing through erasure page 301 lines 32-34</p> <p>And page 310 lines 20-24.</p>	
(18) an instruction to interrupt a signal;	Column 13 lines 26-27.	... or [the signal or signals instruct decrypter/interrupter, 101,] not to decrypt the transmission or to interrupt the transmission ...	<p>Page 300 lines 30-32.</p> <p>Page 301 lines 1-3.</p> <p>At a station where Page 301 lines 4-31.</p>	<p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J ...</p> <p>A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.</p> <p>(Simultaneously other stations compare selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information</p>

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				correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to <i>cause all information of said 1st-WSW-program-enabling-message (#7) to be erased</i> from all memory of said station ... thereby disabling said apparatus.)
			with respect to page 297 lines 23-29,	... a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions ... (Hereinafter said message is called the " <i>1st-WSW-program-enabling-message (#7).</i> ")
			Thus preventing through erasure page 301 lines 32-34	<i>Resulting in a match causes controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions.</i>
			And page 310 lines 20-24.	... microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.
(19) an instruction not to interrupt a signal;	Column 13 lines 26-27.	... or [the signal or signals instruct decrypter/interrupter, 101,] not to decrypt the transmission or to interrupt the transmission ...	Page 300 lines 30-32.	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J ...
			Page 301 lines 1-3.	A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.
			At a station where Page 301 lines 4-31.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to

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				<p>occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to <i>cause all information of said 1st-WSW-program-enabling-message (#7) to be erased</i> from all memory of said station ... thereby disabling said apparatus.)</p> <p>... a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions ... (Hereinafter said message is called the "<i>1st-WSW-program-enabling-message (#7).</i>")</p> <p><i>Resulting in a match causes</i> controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions.</p> <p>... microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.</p>
			<p>with respect to page 297 lines 23-29,</p> <p>Thus preventing through erasure page 301 lines 32-34</p> <p>And page 310 lines 20-24.</p>	
(20) an instruction informing how to decrypt a signal;	Column 13 lines 27-29.	The signal or signals may also inform decrypter/interrupter, 101, how to decrypt ...	Page 295 line 24 to page 296 line 3.	<p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107,</p>

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			See also page 143, lines 10-30.	<p>to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258.</p> <p>The second message conveys the second combining synchronizing command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length-token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.</p> <p>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs.</p>
(21) an instruction informing how to interrupt a signal;	Column 13 lines 29-31.	... or [the signal or signals may also inform decrypter/interrupter, 101, how to] interrupt the programming if decrypter/interrupter, 101, is capable of multiple means.	Page 300 lines 30-32. Page 301 lines 4-14.	<p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J,....</p> <p>(Simultaneously other stations compare</p>

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				selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program-enabling-message (#7) to be erased from all memory of said station....
(22) an instruction to turn on an apparatus;	Column 18 lines 19-22.	These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.	Page 410 lines 10-11.	Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209, ...
(23) an instruction to tune an apparatus;	Column 18 lines 24-25.	These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 410 lines 10-11.	Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency, ...
(24) an instruction to hold a signal;	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 420 lines 6-20.	The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information of the particular identification information of the particular stocks in said portfolio ... One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T". ...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory

Page 422 lines 33 to
Page 423 line 4.

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(25) an instruction to monitor a signal;	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	matches the aforementioned binary information of "I" that is among the news-items-of-interest information.... Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
	Column 17 lines 36-38. Column 22 lines 15-20.	<p>Passing Instruction and Information Signals that are Embedded in Television and Radio Programming Transmissions to Such External Equipment</p> <p>Working with microcomputer, 205, which is preprogrammed to present received programming in predetermined fashions determined at the receiver site, signal processor, 200, permits and facilitates such presentations in accordance with the intentions of the suppliers of the programming at remote sites.</p>	<p>Page 390 line 13 to page 556 line 32.</p> <p>Page 428 line 21 to page 429 line 17.</p>	<p>See generally.</p> <p>The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. In a predetermined fashion, said subscriber has caused to be included in said program-unit-of-interest information. (Microcomputers, 205, of selected other stations of said large plurality of stations are also so preprogrammed.) The station-specific-television-program-selection-and-display instructions at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular information that</p>

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				<p>said subscriber will pay up to a certain limit--for example, twenty-five cents--to be permitted to receive said program and that, if the TV set, 202, of said station is switched off when information of the transmission of said program is detected, power should be switched on to said TV set, 202, and said program should be displayed at the monitor, 202M, of said set and, in addition, power should be switched on to the video recorder/player, 217, of said station, and said program should be recorded at said recorder/player, 217.</p> <p>The signal processor, 200, of said station scans sequentially all received television transmission channels in the fashion described above and is preprogrammed at the RAM associated with the control processor, 39I, of its decoder, 30, to respond in a particular controlled function fashion whenever a SPAM message with an execution segment of particular available-television-program information is detected. Said signal processor, 200, has capacity for actuating and tuning TV set, 202, and video recorder, 217, and for controlling microcomputer, 205.</p>
(27) an instruction to coordinate a signal;	Column 19 lines 42-43.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to ...	Page 450 lines 31-32. Page 21 lines 20-23. <i>See generally</i> page 447 line 25 to page 457 line 10.	<p>... caused his microcomputer, 205, to be preprogrammed as described above; ...</p> <p>Microcomputer, 205, is preprogrammed to ... respond ... to ...</p> <p>Controlling Computer-based Combined Media Operations</p>
(28) an instruction to generate a signal;	Column 19 line 30. Column 19 lines 48-53.	<p>Co-ordinating Multimedia Presentations in Time</p> <p>These signals instruct microcomputer, 205, ...</p> <p>... to generate several graphic video overlays, ...</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example</p>

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		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first. Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(29) an instruction to transmit a signal upon command;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
		... to generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...	Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and

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		... transmit these overlays to TV set, 202,...	Page 26 lines 4-8.	for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(30) an instruction to transmit a specific signal;	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
(31) an instruction to overlay a signal;	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
(32) an instruction to process if a signal is held;	Column 20 lines 31-36.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-

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	converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...		<p>and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
		Page 476 line 34 to page 477 line 8.	
		Page 477 lines 8-17.	

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receiving at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission, wherein said at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission	Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. Each receiver/modulator/ input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ... Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 10 lines 20-23.	[The signal process apparatus outlined in Figs. 1A, 2B, and 2C, and their variants as appropriate] can be used in a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 line 31 to page 325 line 2.	
	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 324 lines 12-14.	
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 326 lines 27-30.	
includes an information	Column 11 lines 3-5.	Signal processor, 71, has means, described	Page 14 line 35 to page 15 line 2. Page 325 line 34 to	At signal processor system, 71, which is a

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code and one of said at least one control instruction;	<p>above, to identify and separate the instruction and information signals from their associated programming and ...</p> <p>Column 11 lines 38-43.</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate</p>	<p>page 326 line 7.</p> <p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	

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detecting said information code and said one of said at least one control instruction in said at least one of a television transmission, a radio transmission, a telephone transmission, and a data transmission, said information code designating at least one of:	Column 9 lines 47-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 31 to page 329 line 1.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>
	Column 9 lines 47-57.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	Page 248 line 17 to page 249 line 5.	Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.
	Column 9 lines 47-57.		Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to

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			<p>decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20,</p>
	<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p>	
		<p>Page 265 line 27 to Page 266 line 21.</p>	

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		This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 250 lines 13-17.	... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz. Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchron command. Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
			Page 251 lines 8-11.	
			Page 263 lines 19-24.	
			Page 37 lines 26-28.	
			Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:.... ...unique codes that identify the sources and suppliers of computer data.
	Column 15 lines 63-68.	In the case of data transmitted to the micro-computer, they may be unique codes that identify the source and suppliers of the data. In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertisements, etc.	Page 50 lines 19-20.	...and causes said AT&T news item to be printed at said printer, 221.

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			Page 421 lines 13-15.	...meter-monitor segment that contains the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T",
(1) said programming;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
			Page 50 lines 6-7.	...unique identifier codes for each program unit (including commercials);....
(2) use of said programming;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors

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				Page 411 lines 10-15	that identify signals encoded in programming transmissions because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above. Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
				Page 418 line 23 to page 419 line 15.	
(3) a transmitter station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.		Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) said receiver station;	Column 16 lines 56-61.	... and, in a predetermined fashion, create a signal string by appending digital information to the received signal which information might		Page 180 lines 1-3. Page 297 line 15. Page 180 lines 4-15.	Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming. ...creating a meter record that records the decryption.... Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete .. except the source mark

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			identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.		Page 181 lines 8-14.	information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular preprogrammed record.... In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...
(5) a network;	Column 16 lines 32-35.		For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.		For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
	Column 16 lines 39-41.		Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 320 lines 2-8.		Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
(6) a broadcast station;	Column 15 lines 60-62.		[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of	Page 49 lines 26-28.		Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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		transmission.	Page 50 lines 1-4.	... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) at least one of a channel on a cable system;	Column 16 lines 35-41.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 319 line 33 to page 320 line 8.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) a unique identifier datum;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28. Page 50 lines 6-7.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique identifier codes for each program unit (including commercials);...
(10) at least one of a source of data and a supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	Page 49 lines 26-28. Page 50 lines 19-20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: unique codes that identify the sources and

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at least one of communicate and process said programming in accordance with said information code and said at least one control instruction.			embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.		embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.		Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 15 lines 57-62. Column 4 lines 9-12.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.... that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, ...		Page 315 lines 20-24. Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.

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			<p>Page 49 line 26 to Page 50 line 4.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times monitor information that identifies what programming is available, ... They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.
			<p>Page 28 lines 26-27. Page 13 lines 28-31.</p>	

224. A method of processing signals at a receiver station, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
receiving at least one of television programming; and radio programming; selecting one of a plurality of storage locations;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.

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Language		Language		Language	
	Column 12 lines 58-61.	programming transmissions. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...		Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
storing said at least one of television programming and radio programming at said selected one of said plurality of storage locations;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
storing an identification signal identifying said at least one of television programming and radio programming with said at least one of television programming and radio programming at said selected one of said plurality of storage locations;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 13 lines 25-32.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
decoding said stored identification signal;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...</p> <p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>
identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...</p> <p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively,</p>

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programming based on said step of decoding said stored identification signal; and				detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to a subscriber based on said step of identifying.	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

225. The method of claim 224, wherein said step of communicating further comprises the step of: communicating said identification signal and said at least one of television programming and radio programming from said selected one of said plurality of	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information
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storage locations to a subscriber in response to said step of identifying.				with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
			Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.

226. The method of claim 225, said method	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each
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further comprising the step of: detecting said identification signal communicated from said receiver station to the subscriber.		should expect to receive the programing.		program unit, ...
	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programing to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programing transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.

227. The method of claim 226, said method further comprising the step of: recording information indicating that said at least one of television programming and radio programming was communicated based on said step of detecting said identification signal.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programing to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programing transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the

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				<p>signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
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<p>228. The method of claim 227, wherein said step of recording further comprises the step of: recording information indicating:</p>	Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 12-19.	<p>By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
	Column 17 lines 6-9.	At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	<p>Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results.</p> <p>Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.</p>
(1) a time when at least one of said television programming and radio programming	Column 15 lines 57-62.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every

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was communicated; and		each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 44 lines 26-32.</p> <p>Page 49 line 26 to Page 50 line 4.</p> <p>Page 28 lines 26-27.</p>	<p>unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times monitor information that identifies what programming is available, ...
(2) one of a channel and a frequency over which said at least one of television programming and radio programming was communicated.	Column 15 lines 57-62.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to</p>

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			assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times monitor information that identifies what programming is available, ...	
			Page 49 line 26 to Page 50 line 4.	
			Page 28 lines 26-27.	

229. The method of claim 224, wherein said step of selecting further comprises the step of: selecting one of a plurality of programming storage devices.	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
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230. The method of claim 229, wherein said step of storing said at least one of television programming and radio programming further comprises the step of: storing said at least one of television	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
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		selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78. ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...

231. The method of claim 230, wherein said	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned
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<p>step of identifying further comprises the step of:</p> <p>identifying said selected one of said plurality of storage devices that is storing said at least one of television programming and radio programming based on said step of decoding said stored identification signal.</p>				<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...

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		it contains.		Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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232. The method of claim 231, wherein said step of communicating further comprises the step of: communicating said at least one of television programming and radio programming from said selected one of said plurality of storage devices to a subscriber in response to said step of identifying said selected one of said plurality of storage devices.	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the

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				prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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233. The method of claim 224, said method further comprising the step of: receiving and storing a programming schedule identifying:	Column 11 lines 18-31.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 27 to page 327 line 2.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
(1) the time when said at least one of television programming and radio programming should be communicated; and	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
(2) at least one of the channel and the frequency over which said at least one of television programming and radio programming should be communicated to said	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

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subscriber.				
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<p>234. The method of claim 233, wherein said step of communicating further comprises the step of:</p> <p>communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to said subscriber in response to said step of identifying and in accordance with said programming schedule.</p>	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
	<p>Column 11 lines 60-61.</p> <p>Column 12 lines 26-29.</p> <p>Column 10 lines 49-52.</p>	<p>... controller/computer, 73, selects a video recorder/player, 76 or 78, ...</p> <p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 lines 13-15.</p> <p>Page 330 lines 5-15.</p> <p>Page 325 lines 6-9.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...</p> <p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...</p> <p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
235. The method of claim 224, said method further comprising the step of: receiving and detecting a signal instructing said	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,

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<p>receiver station to communicate said at least one of television programming and radio programming to said subscriber, wherein said steps of decoding, identifying and communicating are performed in response to said step of receiving and detecting said instructing signal.</p>	<p>Column 12 lines 26-29.</p>	<p>head end facility should transmit the programming.</p>	<p>Page 84 lines 26-28.</p>	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>Page 28 lines 26-27.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
		<p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p>	<p>Page 49 lines 26-27.</p>	<p>... monitor information that identifies what programming is available, ...</p>
	<p>Column 11 lines 28-31.</p>	<p>Such input information might also indicate when and on which channel or channels the head end facility should transmit each</p>	<p>Page 326 line 33 to page 327 line 2.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 330 lines 5-15.</p>	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...</p>
				<p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>
				<p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
		Column 10 lines 49-52.	<p>program unit to cable field distribution system, 93.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>	Page 325 lines 6-9.	<p>channels and how the station should transmit the unit, ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
236. The method of claim 224, wherein said step of receiving further comprises the step of: receiving and demodulating a carrier transmission including said at least one of television programming and radio programming.	Column 10 lines 30-39.	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p>	Page 324 lines 23-31.	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>	
237. The method of claim 224, wherein said step of receiving further comprises the step of: loading a prerecorded portion of said at least one of television programming and said radio programming onto a programming storage/playing device at the receiver station.	Column 10 lines 48-49.	<p>Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.</p>	Page 325 lines 5-6.	<p>Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.</p>	

[illegible]

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one of said plurality of storage locations that is storing said at least one of television programming and radio programming;		should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
decoding said stored information;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
identifying said selected one of said plurality of	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific	Computer, 73, has capacity for determining what programming is prerecorded on the

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	Reference	Language	Reference	Language

storage locations that is storing said at least one of television programming and radio programming based on said step of decoding said stored information; and		programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.		magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to a subscriber in response to said step of identifying.	Column 10 lines 49-52. Column 11 lines 28-31.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 325 lines 6-9. Page 326 line 33 to page 327 line 2.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

239. The method of claim 238, wherein said step of storing information further comprises the step of: storing information identifying at least one of a distance and a storage location of the beginning of said at least one of television programming and radio programming.	Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 line 5 to Page 331 line 3.	Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the
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	Reference	Language	Reference	Language

	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded to cause said selected recorder, 76 or 78, to turn on and record programming, ...
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240. The method of claim 238, wherein said step of storing information further comprises the step of: storing information identifying: (1) at least one of a distance and a storage location of the beginning of said at least one of television programming and radio programming; and (2) at least one of a distance and a storage location of the end of said at least one of television programming and radio programming.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 line 5 to Page 331 line 3.	Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming

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				played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...
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241. The method of claim 238, said method further comprising the step of: embedding an identification signal identifying said at least one of television programming and radio programming in said at least one of television programming, wherein said stored information includes said embedded identification signal, and wherein said step of storing information includes the step of storing said at least one of television programming and radio programming with said embedded identification signal at said selected	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
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one of said plurality of storage locations.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.
		<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>	Page 84 lines 26-28.

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	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...		Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
				Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78;
242. A method of processing signals at a receiver station, said method comprising the steps of: receiving at least one of television programming and radio programming with an identification signal;	Column 10 line 61 to column 11 line-3.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above. At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93. The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.		Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire ...
				Page 325 lines 17-27.	In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. The other path inputs the transmission of said given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
embedding said identification signal in said received at least one of television programming and radio programming;	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation		Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
		Column 11 lines 38-39.	during transmissions of individual units of programming, and that they can be monitored. By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	They can be conveniently monitored. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
selecting one of a plurality of storage locations;		Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 28 lines 26-27. Page 49 lines 26-27.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
storing said at least one of television		Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix	Page 329 lines 13-20.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix

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Claim Language	Reference	Language	Reference
programming and radio programming with said embedded identification signal at said selected one of said plurality of storage locations;		switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	
receiving and storing a programming schedule designating when and on what channel or frequency said at least one of television programming and radio programming should be communicated to a subscriber;	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.
decoding said stored identification signal;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
identifying said selected one of said plurality of storage locations that is storing said at least one of television programming and radio programming based on	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
		switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
		Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	
		Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	
		Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the	

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said step of decoding said stored identification signal;				prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
configuring a switch to allow communication of said at least one of television programming and radio programming from said selected one of said plurality of storage locations to the subscriber according to said programming schedule; and	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
communicating said at least one of television programming and radio programming from said selected one of said plurality of storage locations to the subscriber via said switch according to said programming schedule.	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

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		<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p> <p>Page 265 line 27 to Page 266 line 21.</p>	<p>track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 250 lines 13-17. Page 251 lines 8-11. Page 263 lines 19-24. Page 37 lines 26-28.	radio frequency selection pattern: 100.0 MHz. Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command. Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
recording information indicating that said at least one of television programming and radio programming was communicated based on said step of detecting said embedded identification signal.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field

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				<p>distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
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244. An apparatus located at a receiver station for processing signals, said apparatus comprising:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
a programming storage device for storing at least one of radio programming and television programming;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming. ...
an input device for inputting said at least one of radio programming and television programming;	Column 10 lines 61-63.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.

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a signal detector operatively connected to said programming storage device for detecting signals stored in said programming storage device;		Column 12 lines 26-29. See Fig. 2A.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15. See Fig. 2A.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
a communicator, operatively connected to said programming storage device, for communicating said at least one of radio programming and television programming and other information to a subscriber;		Column 10 lines 40-47. See Figs. 3A, 3B, and 3C.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4. See Figs. 6A & 6B.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a computer operatively connected to said input device, said signal detector and said communicator, wherein said computer is programmed to perform the following steps:		Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
(a) receiving said at least one of radio programming and television programming from said input device;		Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.

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(e) outputting the information identifying said at least one of radio programming and television programming to said programming storage device and controlling said programming storage device to store the information with said information with said stored at least one of radio programming and television programming at said selected storage location;	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.
	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.
(f) causing said signal detector to detect the identifying information stored on said programming storage device;	Column 12 lines 16-20.	Controller/computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to tell each how to operate and how and where to look for signals and to communicate other information.	Page 327 lines 15-18.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
		The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.	
		... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
		Computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to instruct each how to operate and how and where to search for SPAM information.	
		Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said	

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(g) determining said selected storage location of said stored at least one of radio programming and television programming based on said step (f);	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
(h) controlling said programming storage device to output said stored at least one of radio programming and television programming from said selected storage location to communicator; and	Column 10 lines 49-52. Column 11 lines 21-31.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field. Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
		SPAM information can include ... "program unit identification code" ... Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	

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(i) controlling said communicator to communicate said at least one of radio programming and television programming to said subscriber.		Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
		Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
245. The apparatus of claim 244, wherein said input device further comprises: a receiver for receiving and demodulating a carrier transmission including said at least one of radio programming and television programming.		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
246. The apparatus of claim 245, said apparatus further comprising: a second detector operatively connected to said receiver and said computer for detecting signals in said carrier transmission.		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...	Page 325 line 34 to page 326 line 10.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission

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		station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...	
247. The apparatus of claim 246, wherein said second detector detects a signal instructing said computer to store said received at least one of radio programming and television programming, and wherein said computer performs at least one of said steps (c) - (e) in response to said second detector detecting said signal instructing said computer to store said received at least one of radio programming and television programming.	Column 11 lines 3-14.	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ...</p> <p>Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.</p>	<p>Page 325 line 34 to page 326 line 11.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.</p> <p>Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.

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			<p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the</p>
	Page 84 lines 26-28.		
	Page 28 lines 26-27.		
	Page 49 lines 26-27.		
	Page 329 line 2-20.		
	Column 11 lines 57-64.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	

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					programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
<p>248. The apparatus of claim 246, wherein said second detector detects a signal instructing said computer to communicate said stored at least one of radio programming and television programming to the subscriber, and wherein said computer performs at least one of said steps (f) - (i) in response to said second detector detecting said signal instructing said computer to communicate.</p>	<p>Column 11 lines 3-5.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, ...</p>	<p>Page 325 line 34 to page 326 line 10.</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; automatically adds, in a predetermined fashion, source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, ...</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.)</p>
<p>249. The apparatus of claim 244, said</p>	<p>Column 10 lines 48-49.</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.)</p>	<p>Page 14 lines 26-32.</p>	<p>Page 325 lines 5-6.</p>	<p>Programming can also be manually delivered to said station on prerecorded videotapes and</p>

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apparatus further comprising a programming storage/playback device for receiving one of tapes and discs containing prerecorded portions of said at least one of radio programming and television programming.			and videodiscs.		videodiscs.
250. The apparatus of claim 244, wherein said programming storage device further comprises a plurality of programming storage devices, and wherein said step (c) further comprises the step of: selecting a first one of said plurality of programming storage devices for storing said received at least one of radio programming and television programming.	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...		Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
251. The apparatus of claim 250, said apparatus further comprising: a switch operatively connected between said plurality of	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...		Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, ...

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programming storage devices and said communicator for selectively connecting a second one of said plurality of storage devices to said communicator, and wherein said computer is programmed to further perform the step of:		Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30. Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
	one of configuring and controlling said switch to connect said second one of said plurality of storage devices to said communicator to allow said at least one of radio programming and television programming to be communicated to the subscriber.	column 12 lines 3-8	... controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	See generally. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at

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				computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
	Column 10 lines 49-52.	When played on video recorder and	Page 325 lines 6-9.	When played on video recorders, 76 and 78,

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		players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.		or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
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252. The apparatus of claim 244, said apparatus further comprising: a programming schedule input device operatively connected to said computer for:	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
(a) one of receiving and inputting a programming schedule, said programming schedule designating at least one of a time, a channel and a frequency for communicating said stored at least one of radio programming and television programming, wherein said computer performs said steps (f) - (i) in response to said programming schedule; and	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
(b) controlling said communicator to communicate said at least one of radio programming and television programming over said at least one of	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might	Page 326 line 30 to page 327 line 2.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each

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a time, a channel and a frequency designated by said programming schedule.			also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.		program unit, when and on which channel or channels and how the station should transmit the unit, ...
253. The method of claim 244, wherein said computer further comprises said signal detector.	Column 12 lines 13-16.	Controller/computer, 73, monitors the operation of the head end facility by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A.		Page 327 lines 13-15.	Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A.
254. A method of controlling a plurality of receiver stations each of which	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.		Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
				Page 90 lines 4-7.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 17 lines 47-53.	FIG 6 illustrates one possible		Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an

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includes a television receiver,	Column 19 lines 28-29.	configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit. ...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 396 lines 8-10. Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. ... and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....	
a signal detector, and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
a processor,	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,	

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wherein each of said plurality of receiver stations is adapted to detect the presence of at least one control signal		Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
and programmed to process downloadable code, said method comprising the steps of:		Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
receiving, at a transmitter station,		Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-

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<p>at least a portion of said downloadable code which is effective to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming, wherein said downloadable code has a target processor to process data at each of said plurality of receiver stations;</p>	<p>Column 19 lines 46-53.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the</p>

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transferring said downloadable code to a transmitter;	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
			Page 25 line 34 to page 26 line 1.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synchron command. Said second command has a "00" header, an execution segment, and a meter-monitor ... When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page	In each decoder, the controller, 39, 44, or 47,

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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			38 line 8.	receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
receiving said at least one control signal at said transmitter station,	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 24 lines 5-6. Page 451 lines 7-9.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
wherein said at least one control signal operates to execute said downloadable code; and	Column 19 line 64 to column 20 line 1.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first	Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>transmitting at least one information transmission including said downloadable code and said at least one control signal.</p>	<p>Column 19 lines 46-53.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 26 line 4. Page 23 line 35 to page 24 line 16.</p>	<p>and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber</p>

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		Reference	Language	Reference	Language
				Page 26 lines 4-8.	station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
255. A method of communicating subscriber station information from a subscriber station to at least one remote data collection station, said subscriber station including a processor for processing at least one instruct signal said method comprising the steps of:		Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	Page 33 lines 18-20. Page 273 lines 4-6. Page 273 lines 21-25.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. ... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
inputting a subscriber reaction at a subscriber station;		Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
receiving, at said		Column 20 lines 27-37.	Five minutes later,	Page 471 line 26 to	Five minutes later, said program originating

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
subscriber station, information that designates at least one of:		<p>a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.</p> <p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,</p> <p>instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form</p>	<p>page 472 line 17.</p> <p>Page 476 line 34 to Page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory and to cause an instance of ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected</p>

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			<p>second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>	<p>Page 477 lines 8-17.</p>	<p>second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
(b) an output to deliver in consequence of said inputted subscriber reaction;	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 476 line 34 to page 477 line 8.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is</p>
	Column 20 lines 33-36.	... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded			

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			digital form ...		<p>entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....</p>
determining the presence of said inputted subscriber reaction at said subscriber station by processing said inputted subscriber reaction;	Column 20 lines 31-33.	... that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, ...		<p>Page 477 lines 8-17.</p> <p>Page 472 lines 16-17.</p> <p>Page 472 lines 27-32.</p>	<p>controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(At stations where TV567# information does not exist at last-local-input-# memory of the controllers, 20, said instructions cause said controllers, 20, to cease executing and delete all information of said instructions without placing any information at the decoders, 145 and 203, ...</p>
processing said at least one instruct signal which is effective	Column 20 lines 27- 31.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567		<p>Page 471 line 26 to page 472 line 17.</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p>

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<p>to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming at said subscriber station in consequence of said step of determining; and</p>	<p>Column 7 lines 39-49.</p>	<p>...</p> <p>In a pre-determined fashion, buffer/comparator, 8, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decryptor, 10. Decryptor, 10, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required. Decryptor, 10, then passes the decrypted signals to processor or monitor, 12. Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.</p> <p>Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit. The processor unit, 12, has the capacity to identify instruction</p>	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>In a fashion described more fully below, buffer/comparator, 8, and a controller, 20, which, too, is described more fully below, determine whether signal processor, 26, is enabled to decrypt said information. If signal processor, 26, is so enabled, buffer/comparator, 8, transfers said information to decryptor, 10.</p> <p>Decryptor, 10, is a standard digital information decryptor, well known in the art, that ... uses conventional decryptor techniques, well known in the art, to decrypt said signals as required. Decryptor, 10, transfers decrypted signals to controller, 12.</p> <p>Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information</p>

Claim Language	Support to parent application filed November 3, 1981	Reference	Language	Support to instant specification	Reference	Language
		signals for controller, 20, and pass them to controller, 20, over control information lines.	<p>of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p> <p>Said contained messages that are addressed to apparatus such as decoder, 30, PRAM</p>	<p>Page 291 lines 21-24.</p> <p>Page 402 lines 21-26.</p> <p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p> <p>For example, page 531 lines 17-22.</p>		

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transferring, from said subscriber station to said at least one remote data collection station, at least one datum that confirms at least one of:	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 ...
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	[Signal processor in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
			Page 471 lines 26-31.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 473 lines 3-8.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,.... One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
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			first, ordered	Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.
			and, second, delivered.	Page 471 lines 14-16. Page 473 line 29 to Page 474 line 1.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ... Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
(a) delivery of said at least one instruct signal from said step of processing; and	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,		Page 28 lines 25-35.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,		Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to

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			assemble, record, and transmit meter records to remote billing stations ... Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information, ... One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ... Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information. Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ... Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
	first, ordered	Page 471 lines 26-31. Page 473 lines 3-8. Page 472 lines 23-27 with Page 471 lines 14-16. Page 473 line 29 to Page 474 line 1.	
(b) delivery of said effect from said step of processing.	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	[Signal processor in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and

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a control signal at a receiver station, said receiver station having a	Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to page 316 line 6.
processor, and a	Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to page 316 line 6.
controlled device, and wherein said receiver station	Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to page 316 line 6.

Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, in and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)

Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, in and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)

Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said

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transfers said gathered information to a remote station, said method comprising the steps of:		Column 17 lines 16-17.	... to be handled, recorded, and transmitted to a remote site with all other monitor information.	Page 28 lines 25-35	<p>transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)</p> <p>[Signal processor ... 200 in Fig. 7 ... and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
identifying said at least one of a resource and a control signal which is effective to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and		Column 15 lines 57-62.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 31 5 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are</p>

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computer programming;	Column 17 lines 17-21.	<p>Page 49 line 26 to Page 50 line 4.</p> <p>Page 28 lines 26-27.</p> <p>Page 322 lines 19-26.</p> <p>Page 174 lines 4-23.</p>	<p>described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times monitor information that identifies what programming is available, ... <p>For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3 (which are not encrypted) will cause not only decoder, 203, to process the meter-monitor information of said messages and transmit the aforementioned 1st monitor information (#3) and 2nd monitor information (#3), via the monitor information bus means of Fig. 5, to onboard controller, 14A.</p> <p>Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203, ... then all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter,</p>
	In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programming usage and viewership.		

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	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	the "1st monitor information (#3).") Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 17 lines 65 to column 18 line 4.	TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 401 lines 19-23. Page 35 lines 11-15.	(TV signal decoder, 203, has capacity, itself, to detect said ... SPAM message but only when TV set, 202, is on and operating and when the frequency of said master channel is the one TV channel transferred by box, 201, to TV set, 202. ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, ...
			Page 35 lines 24-27.	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
			Page 35 lines 28-31.	... separately defined transmission to a digital detector, 38, which detects signal information of embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.
			Page 37 line 28 to page 38 line 8.	Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to

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monitoring said at least one of a resource and	Column 17 lines 10-12. Column 19 lines 17-23.	Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate. ... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 315 lines 25-28. Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	transfer said signals to said apparatus. In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, ... In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.

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a control signal;	Column 15 lines 27-30.	FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programing usage and associated uses of other data transmissions and equipment.	Page 439 lines 14-15. Page 312 line 33 to page 313 line 8.	Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable channel 13; ... Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...	Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable channel 13; ... Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...
	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer,	Page 28 lines 25-29. Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5)	[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5)

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		<p>205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
			<p>Page 439 lines 14-15.</p>	

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storing a record of the use of said at least one of said resource and said control signal from said step of monitoring; and	Column 7 lines 65-67.	Buffer/comparator, 14, has means for identifying, according to a predetermined fashion, which signals are to be recorded.	Page 31 line 30 to page 32 line 6.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information ... organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") ... and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, ...
	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 268 line 28 to page 269 line 12 from example #5.	In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the

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					information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)
communicating information on said use of said at least one of said resource and said control signal from said step of storing a record from said receiver station to a remote station.	Column 17 lines 16-17.	... to be handled, recorded, and transmitted to a remote site with all other monitor information.		Page 28 lines 25-35	[Signal processor ... 200 in Fig. 7 ... and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
257. A method of controlling a network including a remote intermediate data transmitter station and at least one receiver station, wherein said remote intermediate data transmitter station includes	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.		Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch

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<p>at least one of a broadcast transmitter and a cablecast transmitter for transmitting at least one instruct signal which is</p> <p>effective at said at least one receiver station to instruct one of a computer and a processor,</p>	<p>Column 10 lines 24-28.</p> <p>Column 10 lines 15-20.</p> <p>Column 19 lines 48-53.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p> <p>The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.</p> <p>These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set,</p>	<p>the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p> <p>Page 324 lines 8-17.</p> <p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating</p>

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	<p>202, has the means to receive and display, and to ...</p> <p>... transmit these overlays to TV set, 202,...</p> <p>... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...</p> <p>The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.</p>	<p>computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>
<p>a plurality of selective transfer devices each operatively connected to said at least one of said broadcast transmitter and a cablecast transmitter for communicating data,</p> <p>a data receiver for receiving said data from at least one origination transmitter,</p>	<p>Column 10 lines 41-43.</p> <p>Column 10 lines 30-39.</p>	<p>Page 26 lines 4-8.</p> <p>Page 324 line 34-35.</p> <p>Page 324 lines 23-31.</p>

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a control signal detector, and	Column 4 lines 26-28.	Signals may also be transmitted on frequencies outside the ranges of television and radio.	Page 14 lines 15-17. Page 463 lines 10-29.	In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming.... (To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].)
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders,

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one of a controller and a computer capable of controlling	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 59 lines 29-33	27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
at least one of said plurality of selective transfer devices, and wherein said remote intermediate data transmitter station is adapted to	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 326 lines 19-20. Page 328 lines 14-16.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
detect the presence of at least one control signal	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the

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	original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. For example, computer, 73, receives a given
	These separate detectors are designed to act on the particular frequency ranges in which the encoded information may be found. Control signals can be passed to the apparatus by means of the programming transmissions if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
that controls communication of said at least one instruct signal, and	Column 6 lines 50-53. Column 8 lines 58-59. Column 11 lines 50-57.
to deliver at said at least	Column 11 lines 50-57. ... if controller/computer, 73, determines

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one of a broadcast transmitter and a cablecast transmitter said at least one instruct signal, said method comprising the steps of:		that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		page 329 line 1.	SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
receiving said at least one instruct signal to be transmitted by said remote intermediate data transmitter station and	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...		Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
delivering said at least	Column 19 lines 62-63	... and [the instruction signal] is		Page 25 line 34 to	... an instruction signal is ... embedded in the

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<p>one instruct signal to said at least one origination transmitter, wherein said at least one instruct signal is effective</p> <p>in said network to store at least one control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;</p>	<p>Column 11 lines 57-64.</p>	<p>transmitted in the programming transmission.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>page 26 line 1.</p> <p>Page 329 line 2-20.</p> <p>programming transmission, and transmitted.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
<p>receiving said at least one control signal which at the remote intermediate data transmitter station operates to control communication of said at least one instruct signal; and</p>	<p>Column 11 lines 38-39.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule ...</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>

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				<p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
transmitting said at least one control signal from said at least one origination transmitter	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	6, and page 90 lines 4-11. Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...	
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
before a specific time.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	

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			Page 477 lines 8-17.	<p>each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....</p>
		and instruct control means, 226, to activate printer, 221.	Page 474 lines 3-7.	<p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p>
communicate at least one receiver specific datum to a remote data collection station,	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	<p>[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>

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		that site can determine for billing purposes that the recipe was,	<p>Page 44 lines 26-30.</p> <p>Page 471 lines 26-31.</p> <p>Page 473 lines 3-8.</p> <p>Page 472 lines 23-27 with</p> <p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to Page 474 line 1.</p>	<p>... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p> <p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>

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wherein said receiver station is remote from	Column 20 lines 16-19.	Page 470 lines 1-3 and Page 470 lines 9-12. Page 470 lines 19-21. Page 324 lines 18-21.
said remote transmitter station and	Column 10 lines 24-28.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
said remote data collection station is remote from said receiver station, said method comprising the steps of:	Column 8 lines 46-50.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. ... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
receiving, at said remote transmitter station,	Column 10 lines 61-64.	Page 324 lines 23-33.

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at least one instruct signal which operates at the receiver station to:		Column 10 lines 40-47.	62. They are fed along the conventional paths described above.		amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
			All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
		Column 20 line 27.	Five minutes later, ...	Page 471 lines 26-28.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
(a) store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and		Column 19 lines 42-53.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...
			When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
				Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
				Page 23 line 35 to	Subsequently, a second series of instructions

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computer programming; and		<p>decoder, 203, and transferred to microcomputer, 205.</p> <p>These signals instruct microcomputer, 205,</p> <p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202,</p>	<p>page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating</p>	

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		has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.	Page 26 lines 4-8. Page 44 lines 14-17. Page 26 lines 20-28.	computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound. Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a ... (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
(b) at least one of assemble and	Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to	Page 32 lines 20-21.	Buffer/comparator, 14, operates under control of controller, 20, ...

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			<p>It may only count incoming duplicate signals</p> <p>or it may append a time code to the end of the basic signal string formed around the first received signal</p> <p>and alter this time designation each time a new duplicate signal is identified so that the time code identifies the time of receipt of the last duplicate signal.</p>	<p>Page 32 lines 9-12.</p> <p>Page 181 lines 12-15.</p> <p>Page 191 lines 11-21.</p>	<p>To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....</p> <p>In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field locations....</p> <p>...onboard controller, 14A, to locate the instance of "program unit identification code" information at said SPAM-input-signal-@14A register memory, in the fashion described above; to locate the instance of "program unit identification code" information in the aforementioned new monitor record; and to compare said first named instance to said second named instance. A match results. Under control of said process- monitor-info instructions, said match causes onboard controller, 14A, to record date and time information, received from clock, 18, at the aforementioned last particular time field of said new monitor record and, in a</p>
receiving at least one control signal which operates at said remote transmitter station to control communication of said at least one instruct signal and	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
communicating said at least one control signal	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a	Page 326 lines 28-30.	... with information of the programming schedule, received earlier from input, 74,	

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to said remote transmitter station;		remote site via network, 98, ...	Page 326 lines 28-30.	and/or network, 98, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
receiving at least one of a code and	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
a datum	Column 2 lines 63-66. Column 3 lines 6-8.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 lines 27-29. Page 14 line 35 to page 15 line 2.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
designating a specific one of said at least one instruct signal to be transmitted by said remote transmitter station, and wherein said transmitter station	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

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transfers said designated specific one of said at least one instruct signal to a transmitter; and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programing schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs

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transmitting from said remote transmitter station an information transmission including		Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	to modulator, 87.
	at least one designated instruct signal, wherein said at least one designated instruct signal is transmitted at	Column 20 line 27.	Five minutes later, ...	Page 471 lines 26-28.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
	at least one specific time or on at least one specific channel in accordance with said at least one control signal.	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
				Page 326 lines 28-30.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
259. A method of processing signals		Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is

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at a receiver station	Column 19 lines 31-34.	FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market</p>
to deliver an output	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio	Page 25 lines 26-33.	

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to at least one of complete and supplement mass medium programming,	Column 19 lines 67 to column 20 line 2.	generated graphic is pictured.		over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
said receiver station having a processor,	Column 19 lines 42-43.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
a storage device,	Column 18 lines 45-47.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to ...	Page 450 lines 31-32. Page 21 lines 20-23.	... caused his microcomputer, 205, to be preprogrammed as described above; ... Microcomputer, 205, is preprogrammed to ... respond ... to ...
and at least one output device, wherein at least one of said at least	Column 19 lines 64-66.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4. Page 26 lines 1-8.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ... Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
one output device is adapted to output said mass medium programming, said method comprising the	Column 19 lines 59-60.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."

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steps of:	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.
receiving said mass medium programming at said receiver station from a mass medium programming source	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 437 lines 1-6. Page 295 lines 6-8. Page 439 lines 9-15. Page 445 lines 24-27. Page 446 lines 18-23. Page 445 line 24 to page 446 line 1.
		And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; instructions causes controller, 20, ... to switch power on to video recorder/player, 217, controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ... instructions causes controller, 20, to switch power on to monitor, 202M, ...	

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and outputting said mass medium programming at said at least one output device, said at least one output device adapted to output said mass medium programming;	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	<p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 451 lines 25-32.</p>
receiving one of a broadcast information and a cablecast information transmission at said receiver station,	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the</p>
			<p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00"</p>

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wherein said one of a broadcast information transmission and cablecast information includes at least one instruct signal	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 59 lines 29-33.	header, an execution segment, and a meter-monitor ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
to direct said at least one output device to at least one of complete and supplement said mass medium programming;	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
detecting said at least one instruct signal in said one of a broadcast information transmission and a cablecast information	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,

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transmission and passing said detected at least one instruct signal to a processor; and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
controlling said processor based on said detected at least one instruct signal, said step of controlling further comprising the steps of:	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
(a) storing a control instruction for subsequent processing and use to at least one of complete and supplement said mass medium programming; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the

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		<p>generate several graphic video overlays, ...</p> <p>and to transmit these overlays to TV set, 202,</p> <p>upon command.</p> <p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>	<p>Page 451 lines 7-11.</p> <p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 lines 26-33.</p>	<p>input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command ...</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the</p>

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	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 59 lines 29-33.
one of	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.
a plurality of receiver stations each of which includes	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 396 lines 8-10.
a mass medium programming receiver,	Column 20 lines 16-19.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program.	Page 12 lines 30-35.
		print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	Page 470 lines 1-3 and
		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	Page 470 lines 9-12.
		Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.	At the station of Fig. 7 and 7F (which station
		Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.	
		It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.	
		...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."	

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a signal detector,	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 470 lines 19-21.	is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is ...
one of at least one computer and at least one processor,	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 471 line 35 to page 472 line 1.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
wherein each of said at least one of said plurality of receiver stations is adapted to detect the presence of at least one control signal and	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 472 lines 4-12.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
			Page 37 line 26 to page 38 line 8.	... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20.
			Page 471 line 26 to page 472 line 17.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...
				At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...

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to input a subscriber reaction to a specific offer communicated in mass medium programming, said method comprising the steps of:	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ... Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.	
receiving at least one instruct signal at a transmitter station and	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV	

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	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...	
	Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programing on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...	Page 471 line 26 to page 472 line 17.	The present invention employs signals embedded in programming. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...	
delivering said at least one instruct signal to a transmitter, wherein said at least one instruct signal is effective at said at least one of said plurality of receiver stations to store a control instruction for subsequent processing and use with at least	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to	

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one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.

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Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
		Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
		Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
		Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
		Page 390 lines 26-29.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
Column 19 lines 42-53.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 450 lines 31-32.	... caused his microcomputer, 205, to be preprogrammed as described above; ...
		Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...

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	several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.			Page 23 line 35 to page 24 line 4.	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional</p>
	These signals instruct microcomputer, 205,			Page 37 line 26 to page 38 line 8.	
	to generate several graphic video overlays,			Page 24 lines 5-16.	
	which microcomputer, 205, has the means			Page 451 lines 7-11.	
				Page 19 line 29 to page	

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		<p>to generate and transmit and TV set, 202, has the means to receive and display, and to</p> <p>transmit these overlays to TV set, 202,</p> <p>upon command.</p>	<p>20 line 20.</p> <p>microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a ...</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
receiving at least one of	Column 10 lines 61-64.	Incoming programming transmissions are	<p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>The station receives programming from many</p>

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a code and		received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
a datum at said transmitter station, wherein said at least one of a code and a datum	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
designates at least one of said control instruction and	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor

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said subscriber reaction to said offer;	Column 20 lines 27- 31.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...		<p>information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p>

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<p>receiving said at least one control signal at said transmitter station, wherein said at least one control signal operates at said at least one of said plurality of receiver stations to</p> <p>execute said control instruction for processing and use with said at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia programming, and computer programming;</p> <p>transferring said at least one of a code and a</p>	<p>Column 10 lines 61-64.</p> <p>Column 4 lines 5-6.</p> <p>Column 20 lines 27- 31.</p>	<p>Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.</p> <p>These techniques employ signals embedded in programs.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...</p>	<p>Page 324 lines 23-33.</p> <p>Page 13 lines 25-26.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>The present invention employs signals embedded in programming.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p>
	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53,	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program

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datum and said at least one control signal to said transmitter at said transmitter station			should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.		Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...		Page 14 lines 27-29.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.		Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
at a specific time; and	Column 20 line 27.	Five minutes later, ...		Page 471 lines 26-28.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...
transmitting said at least one instruct signal, said at least one of a code and a datum, and	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...		Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs

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said at least one control signal from said transmitter station.	<p>Column 4 lines 5-6.</p> <p>Column 2 lines 63-66.</p> <p>Column 3 lines 6-8.</p> <p>Column 20 lines 27-33.</p>	<p>These techniques employ signals embedded in programs.</p> <p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...</p>	<p>Page 13 lines 25-26.</p> <p>Page 14 lines 27-29.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...</p> <p>The present invention employs signals embedded in programming.</p> <p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...</p>

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261. A method of generating and embedding signals to control a presentation, said method comprising the steps of:	Column 3 lines 6-8. Column 10 lines 15-23. Column 17 lines 47-53.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions. FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 14 line 35 to page 15 line 2. Page 324 lines 8-24. Page 390 lines 30-35. Page 396 lines 8-10.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ... Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
receiving programming that contains video information;	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic

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	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	<p>Page 329 line 2-22.</p> <p>programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>So far this disclosure has described an intermediate transmission station that transmits conventional television programming....</p>
	Column 12 lines 57-58.	This particular embodiment describes a transmission facility transmitting only television programming.	<p>Page 339 lines 9-11.</p>
receiving an instruction,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the	<p>Page 325 line 34 to page 326 line 7.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted</p>

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		instruction and information signals from their associated programming and ...	Page 59 lines 29-33	<p>transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in</p>
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	
			Page 84 lines 26-28.	

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<p>said instruction designating supplemental programming material and</p> <p>having effect at a receiver station to store a control instruction for subsequent processing and use with said programming;</p>	<p>Column 19 line 64 to column 20 line 2.</p> <p>Column 19 lines 42-53.</p>	<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p> <p>Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 450 lines 31-32.</p> <p>Page 21 lines 20-24.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p>	<p>television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>... caused his microcomputer, 205, to be preprogrammed as described above; ...</p> <p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p>

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		<p>Page 37 line 26 to page 38 line 8.</p>	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
	<p>These signals instruct microcomputer, 205,</p>	<p>Page 24 lines 5-16.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p>
	<p>to generate several graphic video overlays,</p>	<p>Page 451 lines 7-11.</p>	<p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
	<p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p>	<p>Page 19 line 29 to page 20 line 20.</p>	<p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined</p>

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
		<p>... to generate several graphic video overlays, ...</p> <p>... which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to ...</p>	<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>	<p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or</p>	
<p>to perform the coordination of said supplemental programming material indicated by said instruction with said programming; and</p>	<p>Column 11 lines 38-43.</p>	<p>... transmit these overlays to TV set, 202, ...</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 26 lines 4-8.</p> <p>Page 327 line 35 to page 328 line 13.</p>		

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	<p>Column 19 lines 17-23.</p> <p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW</p>

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<p>storing said control signal from said step of embedding, said control signal stored in conjunction with said programming, wherein said supplemental programming material and said ancillary processor are operative to store said control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio</p>	<p>Column 4 lines 5-9.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p>	<p>Page 439 lines 14-15.</p>	<p>information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is programmed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
			<p>Page 13 lines 25-28.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p>

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programming, data programming, multimedia programming, and computer programming, wherein said method generates and embeds said signals.	Column 3 lines 6-8.	Page 14 line 35 to page 15 line 2.
	Column 11 lines 57-65.	Page 329 line 2-22.
	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78, to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.

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		Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...
		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 446 lines 18-23. Page 451 line 3. Page 26 lines 8-11.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
262. A method of controlling at least		Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33. Page 25 line 34 to page 26 line 1. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...

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one of a plurality of receiver stations each of which	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
includes one of a broadcast mass medium programming receiver and a cablecast mass medium programming receiver,	Column 6 lines 23-30.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 4-15.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. ... The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
at least one output device,	Column 15 lines 33-39.	FIG 5 shows two conventional TV sets, 132 and 144, a conventional video cassette recorder, 135, a conventional videodisc player, 137, a conventional radio, 141, a conventional microcomputer, 142, a conventional data printer, 146, and a television set, 148, that is capable of displaying two different television programming transmissions at once.	Page 313 line 16 to page 314 line 16.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses. Input apparatus include ... Laser disc player, 232, ... videodisc player") ... Intermediate apparatus include microcomputer, 205, radio tuner & amplifier, 213, TV tuner, 215, audio recorder/player, 255, and video recorder/player, 217, all of which are well known in the art ... Output apparatus that display or otherwise

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<p>a control signal detector,</p> <p>and at least one processor capable of responding to at least one instruct signal, wherein each of said plurality of receiver stations is adapted to detect and respond to said at least one instruct signal, said method comprising the steps of:</p>	<p>Column 6 lines 50-53.</p> <p>Column 7 lines 50-54.</p>	<p>These separate detectors are designed to act on the particular frequency ranges in which the encoded information may be found.</p> <p>Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both.</p>	<p>Page 35 lines 1-4.</p> <p>Page 31 lines 10-14.</p>	<p>output programming selectively to human senses include, for example, TV monitor, 202M, multi-picture television monitor, 148, speaker system, 263, and printer, 221, ...</p> <p>The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found.</p> <p>Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both.</p>
<p>receiving, at one of a broadcast transmitter station and a cablecast transmitter station, said at least one instruct signal which is effective at said at least one of said plurality of receiver stations to store a control instruction for subsequent processing and use with at least one of television programming, radio programming, video programming, audio programming, data programming, multimedia</p>	<p>Column 10 lines 30-39.</p>	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p>	<p>Page 324 lines 23-31.</p>	<p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>

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programming, and computer programming;	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.	
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....	
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74,	

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				and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
			Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.

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Reference	Language	Reference
Language	Language	Language
	<p>Column 19 lines 45-53.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p> <p>These signals instruct microcomputer, 205,</p>	<p>Page 390 lines 26-29.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-16.</p>
		<p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is</p>

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
				called a "program instruction set."	
	to generate several graphic video overlays,		Page 451 lines 7-11.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.	
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to		Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.	
	transmit these overlays to TV set, 202,		Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.	
	upon command.		Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.	
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the	

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
	Reference	Language	Reference	Language	Language
delivering said at least one instruct signal to a transmitter;	Column 10 lines 40-47.		All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 4 lines 5-13.		These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	Page 13 lines 25-32.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
receiving, at said one of said broadcast transmitter station and said cablecast transmitter station, at least one control signal which at said at least one of said plurality of receiver stations operates to	Column 10 lines 30-39.		The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
communicate at least one of said at least one instruct signal and said control instruction to a specific processor; and	<p>Column 4 lines 5-6.</p> <p>Column 11 lines 3-5.</p> <p>Column 11 lines 38-39.</p>	<p>demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>These techniques employ signals embedded in programs.</p> <p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p> <p>By comparing identification signals on the incoming programming ...</p>	<p>Page 13 lines 25-26.</p> <p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>programming transmissions are received by other programming input means, 62.</p> <p>The present invention employs signals embedded in programming.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information</p>

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				with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available , ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
			Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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Column 19 lines 43-53.	... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 390 lines 26-29.	microcomputer, 205. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways. ... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
	These signals instruct microcomputer, 205,	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at

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				<p>RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating a computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p>
	to generate several graphic video overlays,	<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>		
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to			
	transmit these overlays to TV set, 202,		Page 26 lines 4-8.	
	upon command.		Page 44 lines 14-17.	

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						(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
transferring said at least one control signal to the transmitter, wherein said transmitter transmits said at least one	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.		Page 324 line 31 to page 325 line 4.		Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
instruct signal and said at least one	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...		Page 26 lines 1-8.		Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
control signal.	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.		Page 23 line 35 to page 24 line 4.		Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as

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			the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 37 line 26 to page 38 line 8

263 A method of communicating one of television signals and radio signals in a network including an origination station that transmits signals, at least one intermediate station that receives and selectively transmits signals, and a subscriber station that receives signals from said at least one intermediate station, said method comprising the steps of:	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.

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			<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p>	<p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p>
	<p>Column 10 lines 24-28.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p>	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>	
	<p>Column 15 lines 27-30.</p>	<p>FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programming usage and associated uses of other data transmissions and equipment.</p>	<p>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...</p>	
			<p>Page 312 line 33 to page 313 line 8.</p>	<p>Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local apparatus receives programming, how received programming is processed, what local apparatus is controlled in the course of processing ...</p>
			<p>Page 28 lines 25-29.</p>	<p>[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said</p>

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storing one of television programming and radio programming at a first storage location in said network, said one of television programming and radio programming including at least audio;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	availability and usage. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...	
	Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-23.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...	
	Column 19 lines 53-60.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. The host then says, "And here is what your portfolio did."	Page 25 lines 26-34.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did."	
transferring, under computer control, said one of television programming and radio programming from said first storage location to a second storage location at a selected	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.	
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to	

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one of said at least one intermediate station;		<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programing units are stored on either recorder/player or on both,</p>	<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording</p>		

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...

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					In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
storing said one of television programming and radio programming at said second storage location to enable said selected one of said atg least one intermediate station to communicate said stored one of television programming and radio programming from said second storage location to a subscriber station;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.		Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary		Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule: ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,		Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W

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Reference	Reference	Reference	Language
		<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches</p>

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	Reference	Language	Reference	Language
			<p>so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>	
			<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	
communicating a programming identification signal from said origination station to said selected one of said at least one intermediate station, said programming identification signal identifying said one of television programming and radio programming stored at said second storage location;	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently	Page 13 lines 25-32.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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	Column 15 lines 58-60.	from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored. [The signals for which the decoders are monitoring] ... are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 49 lines 26-28. Page 50 lines 14-20. Page 28 lines 26-27.	automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... monitor information that identifies what programming is available, ...
detecting, at said selected one of said at least one intermediate station, said programming identification signal communicated from said origination station;	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7. Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 9 lines 33-40.	Each path [described in Figures 2A, 2B,	Figs. 2A-2C.	See figures.

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			and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Page 35 lines 1-6. Page 35 lines 16-18. Page 35 lines 27-30. Page 36 lines 1-3. Page 36 lines 18-20. Page 37 lines 26-28. Page 248 line 17 to page 249 line 5.	The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal. The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal. The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal... Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency. Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local	
	Column 9 lines 47-57.		The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.			

Claim Language	Reference	Language	Reference	Support to instant specification. Language
		<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p> <p>Page 257 line 24 to page 258 line 19.</p>	<p>oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>

Claim Language	Reference	Language	Reference	Support to instant specification, Language
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		<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.</p>	<p>Page 265 line 27 to Page 266 line 21.</p>	<p>pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,</p>
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	Reference	Language	Reference	Language

	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>and 46.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
communicating said one of television programming and radio programming identified by said programming identification signal from said second storage location to said	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,</p>

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subscriber station based on said step of detecting said programming identification signal.	<p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p> <p>Column 11 lines 57-64.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>Page 84 lines 26-28.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Page 28 lines 26-27.</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Page 49 lines 26-27.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Page 328 lines 14-16.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded</p> <p>Page 329 line 2-20.</p>	<p>and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded</p>

Claim Language	Support to parent application filed November 3, 1981	Language	Reference	Support to instant specification	Language
	<p>Column 10 lines 49-52.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p> <p>Column 19 lines 20-29.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 325 lines 6-9.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p>	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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264. The method of claim 263, wherein said step of storing said one of television programming and radio programming at said second storage location further comprises the steps of: identifying said one of television programming and radio programming;	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
storing said one of television programming and radio programming	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of

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in a file with identification information identifying said one of television programming and radio programming at said second storage location to enable subsequent identification of said stored one of television programming and radio programming.		<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p>	<p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to</p>	<p>recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well-known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the</p>
			<p>For example, page 332 lines 23-31.</p>	
			<p>For example, page 333 lines 15-21.</p>	

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	<p>Column 4 lines 5-13.</p> <p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.</p> <p>Column 11 lines 38-39.</p> <p>By comparing identification signals on the incoming programming ...</p>		<p>For example, page 334 lines 1-6.</p> <p>Page 13 lines 25-32.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when</p>

Claim Language	Support to parent application filed November 3, 1981		Support to instant specification	
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			and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			... monitor information that identifies what programming is available, ...
			Meter-monitor segments contain meter information and/or monitor information.

265. The method of claim 264, wherein said step of storing said one of television programming and radio programming in a file further comprises the step of: embedding said identification information in said one of television programming and radio programming prior to said step of storing said one of television programming and radio programming with said identification information.	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6. Page 14 line 35 to page 15 line 2. Page 36 lines 2-3. Page 36 lines 19-20.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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			71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...	Page 84 lines 26-28.
			... monitor information that identifies what programming is available, ...	Page 28 lines 26-27.
			Meter-monitor segments contain meter information and/or monitor information. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...	Page 49 lines 26-27. Page 329 line 15-16.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		

266. The method of claim 264, wherein said step of identifying further comprises the step of: comparing said identified one of television programming	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,
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Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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and radio programming to previously stored information identifying a plurality of said one of television programming and radio programming.				and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 22-24.	... with each discrete unit of programming identified with a unique program code ...	Page 326 lines 31-33.	... with each discrete unit of programming identified by its own "program unit identification code" information.

267. The method of claim 263 further comprising the step of: receiving and storing at said selected one of said at least one intermediate station a programming schedule	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 lines 9-10.	... with information of the programming schedule, received earlier from input, 74, and/or network, 98, ...
			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.

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designating, for a plurality of said one of television programming and radio programming:		Column 11 lines 18-31.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 27 to page 327 line 2.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	(a) a time to communicate said one of television programming and radio programming; and	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	(b) at least one of an output channel and an output frequency for communicating said one of television programming and radio programming to said subscriber station.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

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<p>claim 267 further comprising the step of: comparing said detected programming identification signal to said stored programming schedule to determine at least one of a time and a channel and a frequency for communicating said stored one of television programming and radio programming.</p>		<p>incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			<p>... monitor information that identifies what programming is available, ...</p>
			<p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>269. The method of claim 268, wherein said step of communicating further comprises the step of: communicating said one of television programming and radio programming identified</p>	<p>Column 11 lines 66 to Column 12 line 8.</p>	<p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.</p>	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p>
			<p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the</p>

Claim Language	Reference	Language	Reference	Support to instant specification. Language
by said programming identification signal from said second storage location to said subscriber station:		<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the</p>	<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on</p>

Claim Language	Support to parent application filed November 3, 1981	Reference	Language	Support to instant specification
				Language
		<p>execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334</p>	<p>a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y</p>

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Claim Language	Reference	Language	Reference
	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 49 lines 26-27. Page 328 lines 11-13.
(b) in accordance with said programming schedule based on said step of comparing.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.
		<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>

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270. The method of claim 263 further comprising the step of: receiving said one of television programming and radio programming from a remote location.	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...	
271. The method of claim 263, wherein said step of storing said one of television programming and radio programming at said first storage location further comprises the step of: loading said one of television programming and radio programming on a programming storage device.	Column 11 lines 61-64. Column 12 lines 26-29.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ... Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 329 lines 13-20. Page 330 lines 5-15.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said	

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				SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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272. The method of claim 271, wherein said step of loading further comprises: loading a tape containing pre-recorded material including said one of television programming and radio programming onto a video tape player/recorder.	Column 10 lines 48-49.	Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.	Page 325 lines 5-6.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...

273. The method of claim 271, wherein said step of loading further comprises: at least one of loading and storing said one of television programming and radio programming	Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q
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on a video disk storage unit.	<p>Column 12 lines 26-29.</p> <p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p> <p>... controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p> <p>column 12 lines 3-8</p>		<p>Page 334 lines 1-6.</p> <p>Page 330 lines 5-15.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable</p>

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		channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
		Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
		In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

For example, page 332
lines 23-31.

For example, page 333
lines 15-21.

For example, page 334
lines 1-6.

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274. The method of claim 263, wherein said step of storing said one of television programming and radio programming at said first storage location further comprises the steps of: receiving said one of television programming and radio programming at said selected one of at least one intermediate station;	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.
selecting a first storage location at said one of said at least one selected intermediate station; and	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.
storing said one of television programming and radio programming at the selected first storage location at said one of said at least one intermediate station.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.
		The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...	
		So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...	
		... to cause said selected recorder, 76 or 78, to turn on and record programming, ...	
275. The method of claim 263, wherein said step of storing at a storage location in said network further comprises the steps of: receiving said one of television programming and radio programming at said selected one of	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.
		The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic	

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		Reference	Language	Reference	Language
said at least one intermediate station;					programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
selecting a first of a plurality of storage devices at said selected one of at least one intermediate station;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...		Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
storing said one of television programming and radio programming on said first of said plurality of storage devices.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
276. The method of claim 275, wherein said step of transferring further comprises the steps of: selecting a second of said plurality of storage devices at said selected one of at least one intermediate station; and	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary		Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play

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		<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the</p>
			<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
transferring, under computer control, said one of television programming and radio programming from said	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder,</p>

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first of said plurality of storage devices to a second storage location at said selected one of at least one intermediate station.		<p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p>	<p>78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>

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	<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play</p>
		<p>For example, page 331 lines 17-33.</p>
		<p>For example, page 332 lines 23-31.</p>
		<p>For example, page 333 lines 15-21.</p>

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification.	
		Reference	Language	Reference	Language
				For example, page 334 lines 1-6.	and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
277. The method of claim 276, wherein said step of storing said one of television programming and radio programming at said second storage location further comprises the step of: storing said one of television programming and radio programming at said second of said plurality of storage devices to enable said selected one of at least one intermediate station to communicate said stored one of television programming and radio programming from said second of said plurality of storage devices to said subscriber station.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33. Page 331 lines 16-25.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example,	

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Reference	Language
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available</p>	<p>Page 334 lines 1-6.</p> <p>For example, page 332</p>	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 328 lines 11-13.</p> <p>Page 325 lines 6-9.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ...</p>

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.
Reference	Language	Reference
Language	Reference	Language
	<p>205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to</p>
<p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 439 lines 9-15.</p>	
<p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 295 lines 6-8.</p>	
<p>and may instruct control system, 220, to</p>	<p>Page 445 lines 24-27.</p>	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
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			turn video recorder, 217, on and record "Wall Street Week."	Page 446 lines 18-23.	switch power on to video recorder/player, 217, ...
			and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
				Page 446 lines 17-21.	...and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
278. The method of claim 277, wherein said step of communicating said one of television programming and radio programming further comprises the step of: communicating said one of television programming and radio programming identified by said programming identification signal from said second of said plurality of storage devices to said	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	If controller/ computer, 73, determines at any time that it is necessary	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
				Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
				Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units

Claim Language	Support to parent application filed November 3, 1981	Reference	Language	Support to instant specification.	Language
subscriber station based on detecting said programming identification signal.			<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p>	<p>Page 331 lines 16-25.</p>	<p>of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W</p>
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>		

Claim Language	Support to parent application filed November 3, 1981	Reference	Language	Support to instant specification	Language
				first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...	
				Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...	
				Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...	
				In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.	
				For example, page 332 lines 23-31.	
				For example, page 333 lines 15-21.	
				For example, page 334 lines 1-6.	

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	Column 4 lines 5-13.	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.</p>		Page 13 lines 25-32.	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
	Column 11 lines 38-43.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>		Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
				Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
				Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>

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			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
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279. The method of claim 263 further comprising: logging said step of communicating said one of television programming and radio programming.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
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280. The method of claim 263, wherein said step of communicating said one of television programming and radio programming further comprises the step of: communicating identification	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution
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information identifying said one of television programming and radio programming with said one of television programming and radio programming from said second storage location to said subscriber station.				<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 13 lines 25-32.</p> <p>Page 331 lines 17-33.</p>	
	<p>Column 4 lines 5-13.</p> <p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.</p> <p>If controller/ computer, 73, determines at any time that it is necessary</p>					
	<p>Column 11 line 67 to Column 12 line 8.</p>					

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Support to instant specification.
Reference	Reference	Language	Language
	<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W</p>

Claim Language	Reference	Language	Reference	Support to instant specification. Language
			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 435 lines 16-18.</p>	<p>should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p>
	<p>Column 19 lines 14-15.</p>	<p>... pass all program and channel identifiers on all programing being cablecast on the multi-channel system.</p>		

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				<p>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5)</p>	<p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>		

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	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)		
	Page 267 lines 20-28 from example #5.			All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)		
	Page 435 lines 16-25.			In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.		
	Page 436 line 9 to page 437 line 3.			Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned		

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
				Page 439 lines 14-15.	<p>determine-whether-to-select instructions that contain said particular specific-WSW information and said</p> <p>please-fully-enable-WSW-on-CCI3-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ...</p> <p>Said instructions contain one instance, and ...</p> <p>program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CCI3-at-particular-8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p>
281. The method of claim 280 further comprising the step of: logging said step of communicating said one of television programming and radio programming to said subscriber station.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission		Page 337 lines 1-19.	<p>Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
			requires broadcast station operators to maintain as station logs.		signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
282. The method of claim 281, wherein said step of logging comprises the steps of: detecting said identification information communicated from said second storage location during said step of communicating said one of television programming and radio programming;	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.	See figures. The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.
	Column 9 lines 33-40.	Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals	Figs. 2A-2C. Page 35 lines 1-6.		

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		<p>embedded in the particular transmission channel inputted to said paths.</p>	<p>Page 35 lines 16-18.</p> <p>Page 35 lines 27-30.</p> <p>Page 36 lines 1-3.</p> <p>Page 36 lines 18-20.</p> <p>Page 37 lines 26-28.</p> <p>Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	<p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p> <p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p> <p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are</p>
	<p>Column 15 lines 57-60.</p>	<p>The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.</p>		

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				described more fully below. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... monitor information that identifies what programming is available, ...
recording information indicating that said one of television programming and radio programming was communicated to said subscriber station based on said step of detecting said identification information.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 49 line 26 to page 50 line 20. Page 28 lines 26-27.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.

283.	A method of	Column 10 lines 15-23.	The signal processing apparatus outlined in	Page 324 lines 8-24.	The signal processing apparatus outlined in
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communicating one of television signals and radio signals in a network including a plurality of stations, said plurality of stations including an origination station that transmits signals, at least one intermediate station that receives and selectively transmits signals, a plurality of storage devices, and a plurality of subscriber stations that receives signals from said at least one intermediate station, said method comprising the steps of:	<p>FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p> <p>Column 19 lines 60-63.</p>	<p>Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>
	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p>	<p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-</p>

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	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	11. Page 436 line 9 to page 437 line 6.	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	

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	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 439 lines 9-15. Page 12 lines 30-35.	associated converter box, 201, to convert its... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
storing one of television programming and radio programming at a first storage location at a first station of said plurality of stations in said network, said one of television programming and radio programming including at least audio;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 10 lines 20-23.	[The signal process apparatus outlined in Figs. 1A, 2B, and 2C, and their variants as appropriate] can be used in a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 12-14.	... stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
	Column 19 lines 53-60.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. The host then says, "And here is what your portfolio did."	Page 25 lines 26-34.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the

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transferring, under computer control, said one of television programming and radio programming from said first storage location of said first station to a second storage location of a second station of the plurality of stations of said network;	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 331 lines 17-33.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to

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	<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W</p>
		<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205.</p>

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			<p>Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p>
		<p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	

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storing said one of television programming and radio programming at said second storage location to enable selective transmission of said one of television programming and radio programming from said second station to a third station of said plurality of stations.	Column 19 lines 1-4.		Page 439 lines 14-15.	Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. ...to receive the transmission of cable channel 13;...
		In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. ... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as
	Column 19 lines 43-53.	... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 21 lines 23-24. Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	

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		transmit these overlays to TV set, 202, upon command.		<p>for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
			Page 26 lines 4-8.	
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	

284. The method of claim 283, wherein at least one of said first station and said second station includes a selected intermediate	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,</p>
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station, said first storage location and said second storage location including first and second storage locations at said selected intermediate station, said method further comprising the steps of:			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 326 lines 28-30.</p>	<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p>
communicating a programming identification signal from said origination station to said selected intermediate station, said programming identification signal identifying said one of television programming and radio programming stored at said second	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p>

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storage location;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 90' lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>

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		Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24. Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned. Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below. Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. ... monitor information that identifies what programming is available, ...
detecting, at said selected intermediate station, said programming identification signal communicated from said origination station;		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....

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	<p>Column 9 lines 33-40.</p> <p>Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.</p>	<p>Page 59 lines 29-33</p> <p>Figs. 2A-2C. Page 35 lines 1-6.</p> <p>Page 35 lines 16-18.</p> <p>Page 35 lines 27-30.</p> <p>Page 36 lines 1-3.</p> <p>Page 36 lines 18-20.</p> <p>Page 37 lines 26-28.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p><i>See figures.</i></p> <p>The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.</p> <p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p> <p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p> <p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
communicating said one of television programming and radio programming identified by said programming identification signal from said second storage location to at least one of said	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

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plurality of subscriber stations in response to detecting said programming identification signal.	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		Page 328 lines 11-13.	
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...		Page 329 line 2-20.	
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	
		<p>... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>			

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
					By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available , ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
285. The method of claim 284 further comprising the step of: logging that said one of television programming and radio programming was communicated from said second storage location to at least one of said plurality of subscriber stations.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs. ... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
286. The method of claim 285, wherein said step of logging further comprises the steps of: detecting embedded identification data in said communicated one of television programming and radio programming; and	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
	Column 9 lines 33-40.	Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Figs. 2A-2C. Page 35 lines 1-6. Page 35 lines 16-18.	<i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal. The second path, designated B, detects signal

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference		Reference	
		Language		Language	
			maintain as station logs.		programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
287. The method of claim 283, wherein said step of storing at said second storage location further comprises the steps of:	Column 11 lines 22-24.	... with each discrete unit of programming identified with a unique program code ...	Page 326 lines 31-33.	... with each discrete unit of programming identified by its own "program unit identification code" information.	
identifying said one of television programming and radio programming;	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.	
embedding identification data in said one of television programming and radio programming, said identification data identifying said one of television programming and radio programming;			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.	
			Page 36 lines 19-20.	... processes signal information embedded in	

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	a frequency other than a television or radio frequency. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.	
storing said one of television programming and radio programming with said embedded identification data at said second storage location; and	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.	

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		Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
	If controller/ computer, 73, determines at any time that it is necessary	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
	to reorganize the order in which programming units are stored on either recorder/player or on both,	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
		In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
		<i>See generally.</i>
	controller/computer, 73, can use techniques for reorganizing files stored on multidisk	Computer, 73, has capacity for automatically organizing the locations of units

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		units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...

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	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, , that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	For example, page 334 lines 1-6. Page 13 lines 25-32.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
enabling communication of said one of television programming and radio programming from said second station to said third station of said plurality of stations.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play

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	Column 11 lines 38-46.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 436 line 9 to</p>	<p>heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Receiving said Select-WSW-Program-Unit</p>
	Column 19 lines 20-29.	Analyzing these identifier signals in a		

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		<p>predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>page 437 line 6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p>	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
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		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	<p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	Page 445 lines 24-27.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
				Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
				Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
				Page 445 line 35 to page 446 line 1.	... and to tune monitor, 202M, in a predetermined fashion.
				Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
288. The method of claim 283, wherein said step of storing at a first storage location includes storing a first unit and a second unit of said one of television programming and radio programming on a first of said plurality of storage devices, said step of storing said one of television programming and radio programming at a	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	If controller/ computer, 73, determines at	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
				Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
				Page 331 lines 17-33.	Computer, 73, has capacity for

Claim Language	Support to parent application filed November 3, 1981	Language	Reference	Support to instant specification
second storage location further comprising the steps of:		<p>any time that it is necessary</p> <p>to reorganize the order in which programing units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are</p>

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				recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

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(a) reordering said first unit and second unit into a new order; and	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p> <p>For example, page 333</p>	<p>because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move</p>

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(b) storing said first unit and second unit on a second of said plurality of storage devices in said new order.				lines 15-21.	forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
				For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.		Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary		Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
				Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either		Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units

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		recorder/player or on both,		<p>of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize</p>
			<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>		

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			the locations of said units to play according to said schedule, computer 73, ...	
			Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...	For example, page 332 lines 23-31.
			Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...	For example, page 333 lines 15-21.
			In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.	For example, page 334 lines 1-6.

289. A network of stations comprising: an origination station including a transmitter for transmitting one of television programming and radio programming	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
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with programming identification signals, said one of television programming and radio programming including at least audio;			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 18 lines 11-13.	A person decides to watch a program on television that is stereo simulcast on a local radio station, too.	Page 407 lines 9-11.	At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, ...
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message

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			that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
			<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the</p>
			<p>Page 267 lines 20-28 from example #5.</p> <p>Page 25 lines 26-34.</p>
	Column 19 lines 53-60.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. The host then says, "And here is what your portfolio did."	

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a plurality of intermediate stations for receiving, processing and selectively retransmitting said one of television programming and radio programming with said programming identification signals received from said origination station, each of said plurality of intermediate stations including:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	image of said graphic as it appears on the video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programing being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26 from example #5.	Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter

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				meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.

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(a) a receiver for receiving said one of television programming and radio programming with said programming identification signals from said origination station;		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
(b) a signal detector for detecting said programming identification signals;		Column 9 lines 33-40.	Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Figs. 2A-2C. Page 35 lines 1-6. Page 35 lines 16-18. Page 35 lines 27-30. Page 36 lines 1-3. Page 36 lines 18-20.	<p><i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.</p> <p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p> <p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p> <p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p>

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			Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
(c) a plurality of programming storage devices for storing said one of television programming and radio programming;	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
(d) a computer operatively connected to said receiver, said signal detector and said plurality of programming storage devices, said computer programmed to perform the following steps:	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
(1) identifying said one of television programming and radio programming received by said receiver based on said programming identification signal detected by said signal detector;	Column 11 lines 21-24. Column 11 lines 38-41.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ... By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 326 lines 30-33. Page 327 line 35 to page 328 line 13.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

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				<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 326 lines 28-30.</p>	
(2) routing said identified one of television programming and radio programming to a first of said plurality of programming storage devices;	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	
(3) controlling said first of said plurality of programming storage devices to store said identified one of	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	

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television programming and radio programming on said first of said plurality of programming storage devices;				
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to</p>
			<p>For example, page 332 lines 23-31.</p>	

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			For example, page 333 lines 15-21.	the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 334 lines 1-6.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
(5) controlling said second of said plurality of programming storage devices to store said identified one of television programming and radio programming on said second of said plurality of programming storage devices; and	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	
			Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p>
			Page 334 lines 1-6.	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 331 line 17 to page 334 line 6 For example, page 331 lines 17-33.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
(6) communicating said identified one of	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input,	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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television programming and radio programming from said second of said plurality of programming storage devices to a subscriber station; and	<p>74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p> <p>Column 10 lines 49-52.</p> <p>Column 19 lines 20-29.</p>	<p>74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 325 lines 6-9.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to</p>

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		<p>being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record</p>	<p>the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p> <p>-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p>	<p>CC13 ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p>

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			"Wall Street Week,"	Page 446 lines 18-23.	...
			and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
				Page 446 lines 17-21.	...and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
said subscriber station including a receiver for receiving programming and signals.	Column 16 lines 5-10.	For example, TV set, 131, may receive programming from many sources including cable converter box, 133, video cassette recorder, 135, and videodisc player, 137. In every programming unit played on TV set, 132, TV decoder, 131, receives every signal for which it is instructed to search in a predetermined fashion and ...		Page 313 lines 16-23.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.
				Page 314 lines 20-28.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At TV tuner, 215, is TV decoder, 282. ... At TV monitor, 202M, is TV decoder, 145.

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290. A network of stations comprising: an origination station including a transmitter for transmitting one of television programming and radio programming with programming identification signals, said one of television programming and radio programming including at least audio;	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33. Page 25 lines 34-35. Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.	
	Column 18 lines 11-13.	A person decides to watch a program on television that is stereo simulcast on a local radio station, too.	Page 407 lines 9-11.	At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, ...	
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...	
			Page 248 lines 22-26 from example #5. Page 250 lines 13-16 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week"	

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			<p>program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>During this time the program may show the</p>
	<p>Page 252 lines 15-35 from example #5.</p>	<p>Page 267 lines 20-28 from example #5.</p>	<p>Page 25 lines 26-34.</p>
	<p>Column 19 lines 53-60.</p>	<p>Subsequently in the program, the host says,</p>	

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a plurality of intermediate stations for receiving, processing and selectively retransmitting said one of television programming and radio programming with the programming identification signals received from said origination station, each of said plurality of intermediate stations including:	Column 19 lines 14-20.	"Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. The host then says, "And here is what your portfolio did."	Page 435 lines 16-18.	so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did."
		... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 248 lines 22-26 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 250 lines 13-16 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 252 lines 15-35 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ... Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being

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		<p>transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5)</p>	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 288 lines 16-20.</p> <p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28.</p>

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			<p>signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p> <p>For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.</p>	<p>signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p> <p>For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.</p>
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 435 lines 16-25.	
	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 324 lines 18-21.	
			Page 319 lines 30-33.	
(a) a receiver for receiving said one of television programming and radio programming with the programming identification signals from said origination	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and

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station;		video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.		59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.	
(b) a signal detector for detecting the programming identification signals;	<p>Column 11 lines 1-3.</p> <p>Column 9 lines 33-40.</p>	<p>The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.</p> <p>Each path [described in Figures 2A, 2B, and 2C] is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.</p>	<p>Page 325 lines 24-27.</p> <p>Figs. 2A-2C. Page 35 lines 1-6.</p> <p>Page 35 lines 16-18.</p> <p>Page 35 lines 27-30.</p> <p>Page 36 lines 1-3.</p> <p>Page 36 lines 18-20.</p> <p>Page 37 lines 26-28.</p>	<p>The other path inputs the transmission of said given receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.</p> <p><i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.</p> <p>The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.</p> <p>The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...</p> <p>Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.</p> <p>Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>In each decoder, the controller, 39, 44, or 47,</p>	

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(c) a plurality of programming storage devices for storing said one of television programming and radio programming;	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. ... one or more recorder/players, 76 and 78,...
(d) a computer operatively connected to said receiver, said signal detector and said plurality of programming storage devices, said computer programmed to perform the following steps:	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
(1) selecting said one of television programming and radio programming received by said receiver based on the programming identification signals detected by said signal detector;	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original

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				transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 28 lines 26-27. Page 49 lines 26-27. Page 326 lines 28-30. Page 328 line 31 to page 329 line 1.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
(2) routing the selected one of television programming and radio programming to a first of said plurality of programming storage devices;	Column 11 lines 61-64.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
(3) controlling said first of said plurality of programming storage devices to store the selected one of television programming and radio programming on said first of said	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of</p>	<p>For example, page 332 lines 23-31.</p>	

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			<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
(5) controlling said second of said plurality of programming storage devices to store the selected one of television programming and radio programming on said second of said plurality of programming storage devices; and	Column 11 lines 66 to Column 12 line 8.	<p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.</p> <p>If controller/ computer, 73, determines at any time that it is necessary</p>	<p>Page 332 lines 24-30.</p> <p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p>	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>

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	<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87</p>
		<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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				<p>respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,</p>
(6) communicating the selected one of television programming and radio programming from said second of	Column 11 lines 38-46.		By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the	Page 327 line 35 to page 328 line 13.		

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said plurality of programming storage devices to a subscriber station; and			head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.		determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
				Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 10 lines 49-52.		When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 19 lines 20-29.		Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that

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		<p>contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player,</p>
<p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 439 lines 9-15.</p>	<p>Page 295 lines 6-8.</p>
<p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 445 lines 24-27.</p>	<p>Page 446 lines 18-23.</p>
<p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p>		

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<p>the subscriber station comprising a receiver for receiving programming.</p>	<p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
<p>the subscriber station comprising a receiver for receiving programming.</p>	<p>For example, TV set, 131, may receive programming from many sources including cable converter box, 133, video cassette recorder, 135, and videodisc player, 137. In every programming unit played on TV set, 132, TV decoder, 131, receives every signal for which it is instructed to search in a predetermined fashion and ...</p>	<p>Column 16 lines 5-10.</p> <p>Page 313 lines 16-23.</p> <p>Page 314 lines 20-28.</p>	<p>Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.</p> <p>Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At TV tuner, 215, is TV decoder, 282. ... At TV monitor, 202M, is TV decoder, 145.</p>
<p>291. A method of controlling the receipt and processing at a</p>	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to</p>	<p>Page 445 line 24 to page 446 line 1.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission</p>

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receiver station of mass medium programming, said receiver station including		"Wall Street Week."		of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
			Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred, and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example

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a receiver and	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	instructs microcomputer, 205, toinstructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
a processor, said method comprising the steps of:	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
receiving, at said receiver, identification signals that identify specific signal content for at least one of a	Column 19 lines 14-20.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18. Page 248 lines 22-26 from example #5. Page 250 lines 13-16 from example #5. Page 252 lines 15-35	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ... Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ... Then, in a predetermined fashion, control

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				<p>processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new -program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis</p>	<p>from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 288 lines 16-20.</p>	

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plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions;	Column 6 lines 26-30.	which reacts in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28.</p>	<p>of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.</p>
		As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 11-15.	
	Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall	Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes
providing a comparison signal to said processor;				

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comparing said comparison signal to said received identification signals and generating a control signal identifying a desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions;		Street Week," should be televised on TV set, 202, when it is cablecast.		particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.	
	comparing said comparison signal to said received identification signals and generating a control signal identifying a desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions;	Column 19 lines 20-25. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatusto cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...	
			Page 439 lines 9-15.		

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tuning the receiver, based on the generated control signal, to receive said desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions; and performing one of:	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
(1) responding to an instruct signal detected in said desired signal transmission which is effective to control communication of the mass medium programming;	Column 19 line 64 to column 20 line 2.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p>	<p>... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>

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(2) selecting and storing at least one datum received in said desired signal transmission, said at least one datum in respect of the mass medium programming; and	Column 18 lines 30-37.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor

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				information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.	Page 418 line 23 to page 419 line 15.	
				Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.	Page 411 line 28 to page 412 line 2.	
			for recording and subsequent transmission to a remote data collection site.		Page 173 line 30 to page 174 line 23 from example #3.	
				In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in		
				The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to		

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				Page 419 lines 4-15.	buffer/comparator, 14, is called, hereinafter, the "1 st monitor information (#3).") In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission. [Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
				Page 28 lines 25-35.	
				Page 423 lines 11-13.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark;
				Page 424 lines 2-9.	Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
				Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so
(3) controlling one of the receiver and a selective transfer device to communicate to one of an output device and a storage device a portion of the mass medium programming received in said desired one of said plurality of concurrent one of broadcast signal transmissions and cablecast signal transmissions.	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.			

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					doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)
292. A method of controlling a network including a remote intermediate mass medium programming transmitter station and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.		Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
				Page 90 lines 4-7.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.		Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.

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at least one receiver station,	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
with said remote intermediate mass medium programming transmitter station including one of a broadcast	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 396 lines 8-10. Page 324 lines 8-17.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
transmitter and a cablecast transmitter for transmitting mass medium programming,	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a plurality of selective transfer devices each operatively connected to said one of said broadcast transmitter and said cablecast	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,

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transmitter for communicating said mass medium programming,	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.	
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.	
at least one origination transmitter,	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.	
			Page 90 lines 4-7.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-	

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a control signal detector, and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and ...	page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11. Page 325 line 34 to page 326 line 7.	monitor ... At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....	
one of a controller and a computer capable of controlling	Column 11 lines 15-17. Column 11 lines 44-46.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 59 lines 29-33 Page 326 lines 19-20. Page 328 lines 14-16.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmissiion consists of a series or stream of sequentially transmitted SPAM messages. Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,	
at least one of said plurality of selective transfer devices, and with said remote intermediate mass medium programming transmitter station adapted to	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted	
detect the presence of at least one control signal,					

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to control said communication of said mass medium programming		instruction and information signals from their associated programming and ...		transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...
	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 34 line 35 to page 35 line 1. Page 59 lines 29-33.	This base band signal is then transferred through separate paths to three separate detector devices. A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that

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in response to said at least one control signal, and	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	<p>said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received-program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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to deliver at said one of a broadcast transmitter and a cablecast transmitter said mass medium programming, said method comprising the steps of:		Column 11 lines 30-31.	... transmit each program unit to cable field distribution system, 93.	<p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 326 line 35 to page 327 line 2.</p> <p>Page 328 line 13.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>... each program unit, ... the station should transmit the unit, ...</p> <p>... transmit the programming of each received program unit.</p>
		Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
receiving said mass medium programming to be transmitted by the remote intermediate mass medium programming transmitter station and delivering said mass medium programming to said at least one origination transmitter, said mass medium programming having at least one of a code and a datum which is operative to identify and control communication of said mass medium programming in said		Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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network;			6, and page 90 lines 4-11.	
receiving said at least one control signal which	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
at said remote intermediate mass medium programming transmitter station operates to control communication of said mass medium programming; and	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 326 lines 16-18. Page 327 line 35 to page 328 line 13.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a

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				<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p>	<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p>
<p>transmitting said at least one control signal from said at least one origination transmitter</p>	<p>Column 19 lines 60-63.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	11. Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...	
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
before a specific time.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	

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293. A method of communicating programming to	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
at least one	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
receiver station, said at least one receiver station including one of a	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
broadcast programming receiver and a	Column 18 lines 13-14.	The person turns on television, 202, and tunes to the proper channel.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
cablecast programming receiver,	Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 407 lines 12-15.	Said subscriber switches power on to TV set, 202, and manually selects the proper channel, which is, for example, channel 13, at the television tuner, 215, of said set, 202, ...
			Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to

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an output device,		Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	receive the transmission of cable channel 13;... ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
a control signal detector,		Column 18 lines 14-17.	TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, ... Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...
		Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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a processor operably connected to		Column 18 lines 22-24.	Monitor or processor, 204, also identifies signals addressed to tuner, 213, which it transfers accordingly.	Page 408 lines 31-34.	relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
said output device, and with said at least one receiver station adapted to		Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 95 lines 18-24.	Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.
				Page 26 lines 1-2.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform.
				Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
detect and respond to		Column 18 lines 14-19.	TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204. Monitor or	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that

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		processor, 204, determines that certain signals are addressed to switch, 212, and transfers these signals to switch, 212.		consists of ... an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, ...
Column 19 lines 60-65.		At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, ...	Page 408 lines 31-34.	Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.
			Page 25 line 33 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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at least one instruct signal, said method of communicating comprising the steps of:	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 26 line 4. Page 390 lines 30-35.	Said signal instructs microcomputer, 205, ... Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system of Fig. 6; the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 396 lines 8-10. Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions

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said at least one instruct signal at said transmitter station, said at least one instruct signal at the at least one receiver station operating to identify and control communication of said programming;	Column 11 lines 38-43.	above, to identify and separate the instruction and information signals from their associated programming and ...	page 326 line 7. Page 59 lines 29-33	<p>system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
		By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13. Page 84 lines 26-28.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate</p>

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		Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming, and that they can be monitored.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 13 lines 25-32.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.</p>
	transferring said at least one instruct signal to said transmitter; and	<p>Column 10 lines 40-47.</p> <p>Column 4 lines 5-6.</p> <p>Column 18 lines 14-17.</p>	<p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p> <p>These techniques employ signals embedded in programs.</p> <p>TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.</p>	<p>Page 324 line 31 to page 325 line 4.</p> <p>Page 13 lines 25-26.</p> <p>Page 408 lines 18-29.</p>	<p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p> <p>The present invention employs signals embedded in programming.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01"</p>

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transmitting from said transmitter station an information transmission including said programming and said at least one instruct signal.		Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, In television audio, they are likely to lie between eight and fifteen kilohertz.
		Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
		Column 4 lines 5-6. Column 18 lines 14-17.	These techniques employ signals embedded in programs. TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 13 lines 25-26. Page 408 lines 18-29.	The present invention employs signals embedded in programming. Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz

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	Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, In television audio, they are likely to lie between eight and fifteen kilohertz.
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294. An interactive method for data promotion and delivery for use with	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 473 lines 3-13.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe-... instructions selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission.... ... causes ... said decoder, 290, to detect and process properly the information of said second message.
			Page 477 lines 12-17.	
			Page 477 lines 23-29.	
			Page 478 lines 1-5.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
			Page 475 lines 1-2.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
an interactive mass medium programming output apparatus comprising the steps of:	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6;

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		Reference	Language	Reference	Language
			6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.		and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
outputting mass medium programming that promotes a specific fashion of presenting data, said interactive mass medium programming output apparatus having	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 396 lines 8-10.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".	
an input device to receive input from a subscriber;	Column 20 lines 23-26.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.	
prompting said subscriber during said mass medium programming whether said subscriber wants data presented in said specific fashion promoted in said step of outputting, said interactive mass medium programming output apparatus having	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".	

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an output device for outputting said data presented in said specific fashion;	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 473 lines 3-13. Page 477 lines 12-17. Page 477 lines 23-29. Page 478 lines 1-5. Page 475 lines 1-2.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe-... instructions selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission.... ... causes ... said decoder, 290, to detect and process properly the information of said second message. (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) Receiving said output information causes printer, 221, to print the information of said specific recipe and list.	
receiving a reply from said subscriber at said input device in response to said step of prompting said subscriber, said interactive mass medium programming output apparatus having a processor for	Column 20 lines 23-26. Column 20 lines 31-36.	The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ... This signal instructs buffer/comparator, 8,	Page 471 lines 14-21. Page 471 line 26 to	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. Five minutes later, said program originating	

Claim Language	Support to parent application filed November 3, 1981	Reference	Language	Support to instant specification	Language
processing said subscriber reply and controlling delivery of said data in response to instructions;		that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	<p>page 472 line 17.</p> <p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected</p>	<p>English</p>

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delivering instructions at said interactive mass medium programming output apparatus		Column 7 lines 39-49.	In a pre-determined fashion, buffer/comparator, 8, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decrypter, 10. Decrypter, 10, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required. Decrypter, 10, then passes the decrypted signals to processor or monitor, 12. Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 472 lines 13-23.	converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of particular covert control information (which is preprogrammed in said instructions) to be placed at particular control-function-invoking information memory of the controller, 39, of decoder, 145, and also at particular control-function-invoking information memory of the controller, 39, of decoder, 203.
in response to said step of receiving the reply,		Column 20 lines 31-33.	... that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, ...	Page 473 lines 14-17. Page 472 lines 16-17. Page 472 lines 27-32.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred .. controller, 20, to determine that TV567# information exists at said last-local-input-# memory ... (At stations where TV567# information does not exist at last-local-input-# memory of the controllers, 20, said instructions cause said controllers, 20, to cease executing and delete all information of said instructions without placing any information at the decoders, 145 and 203, ...
said instructions controlling said interactive mass medium programming		Column 7 lines 50-54.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external	Page 473 lines 14-19.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that

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output apparatus;		equipment or to buffer/comparator, 14, for further processing or both.		cause said message to be transferred to the controller, 39, of decoder, 203. Automatically, the controller, 39, of decoder, 145, transmits ...	
processing said instructions from said step of delivering, said instructions effective to	Column 7 lines 50-58.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission.	Page 473 lines 29-31.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...	
store and subsequently process said data; and	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	Page 477 lines 8-23.	In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...	
			Page 281 lines 1-6.	By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")	
		which, in a predetermined fashion, signal processor, 200, decrypts and transfers	Page 282 line 2 to page 283 line 33.	... the information of said segments is encrypted prior to transmission ... The ... program originating studio embeds	

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		<p>to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.</p>	<p>Page 478 lines 1-5.</p>	<p>and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p>
<p>presenting said data</p> <p>on the basis of said instructions.</p>	<p>Column 20 lines 48-49.</p> <p>Column 20 lines 33-36.</p> <p>Column 20 lines 36-37.</p>	<p>... and thence to printer, 221, for printing.</p> <p>... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...</p> <p>... and instruct control means, 226, to activate printer, 221.</p>	<p>Page 475 lines 1-2.</p> <p>Page 473 lines 18-31.</p>	<p>Receiving said output information causes printer, 221, to print the information of said specific recipe and list.</p> <p>Automatically, the controller, 39, of decoder, 145, transmits particular switching request information to the control processor, 20A, of signal processor, 200, via the aforementioned control information bus means. Receiving said information causes control processor, 20A, to cause matrix switch, 259, to establish a communications link between the controller, 39, of decoder, 145, and the controller, 39, of decoder, 203. Automatically, said controller, 39, of decoder, 145, transfers said message to the controller, 39, of decoder, 203.</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and</p>

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				execute said generate-recipe-and-shopping-list instructions at microcomputer, 205, ...
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295. The method of claim 294, wherein information evidencing at least one of the availability, use and usage of one of said mass medium programming and said data are one of stored and communicated to a remote data collection station, said method further comprising the step of selecting evidence information that one of identifies and designates at least one of:	Column 18 lines 30-41.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33. Page 38 lines 11-14.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for

Claim Language	Reference	Language	Reference	Support to instant specification. Language
			<p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p>	<p>transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said</p>

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(1) said mass medium programming;				Page 419 lines 4-15.	SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1 st monitor information (#3).")
			Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 28 lines 25-35.	In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.
				Page 397 lines 17-20.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage. Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
		Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28. Page 50 lines 6-7.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...unique identifier codes for each program unit (including commercials);....

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		Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2)	a use of data;	Column 20 lines 27-32. Column 3 lines 6-8.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 471 line 26 to page 472 line 17. Page 14 line 35 to page 15 line 2.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
(3)	a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28. Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...

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(4) a receiver station;	Column 16 lines 56-61.	<p>... and, in a predetermined fashion, create a signal string</p> <p>by appending digital information to the received signal which information might</p> <p>identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.</p>	<p>Page 180 lines 1-3:</p> <p>Page 297 line 15.</p> <p>Page 180 lines 4-15.</p> <p>Page 181 lines 8-14.</p>	<p>Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.</p> <p>...creating a meter record that records the decryption....</p> <p>Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record....</p> <p>In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...</p>
(5) a network;	Column 16 lines 39-41.	Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 320 lines 2-8.	Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.

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(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 1-4.</p>
(7) a channel on a cable system;	Column 16 lines 35-41.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	<p>Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.</p>
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 1-4.</p>
(9) a unique identifier datum;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 6-7.</p>
(10) one of a source	Column 4 lines 5-6.	These techniques employ signals	<p>Page 13 lines 25-26.</p> <p>The present invention employs signals</p>

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and a supplier of data;		embedded in programs.		embedded in programming.	
(11) one of a distributor and an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertisements, etc.	Page 321 lines 1-6.	<p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can</p> <p>For example, another of the aforementioned discounts and cents-off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:</p> <p>.....</p> <p>. 15 cents off 15 cents off .</p> <p>. Nabisco Zweiback Teething Toast .</p> <p>.</p>	
			Page 360 lines 31-34.		
			Page 496 lines 12-13.		
			Page 496 lines 28-35.		
(12) an indication of a payment obligation.	column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site</p>	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>	

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	can determine for billing purposes that the recipe was, first, ordered and, second, delivered.	
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296. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	Page 477 lines 8-23.	In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...
			Page 281 lines 1-6.	By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called " covert control .")
		which, in a predetermined fashion, signal processor, 200, decrypts and transfers	Page 282 line 2 to page 283 line 33.	... the information of said segments is encrypted prior to transmission ... The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ... Executing said information causes control processor, 39J, ... to locate the location of that particular instance of

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
communicating said executable code to said processor and further comprising the step of:	Column 17 lines 39-46.	to decrypt, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe. Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	Page 478 lines 1-5.	controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111". (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ... A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
			Page 15 lines 16-23.	
			Page 34 lines 24-26.	
			Page 44 lines 14-15.	
			Page 95 lines 18-21.	
			Page 390 lines 26-29.	
receiving a signal	Column 20 lines 33-36.	... instruct tuner, 223, to tune cable	Page 476 line 34 to	(An alternate method for inputting said

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containing said data on the basis of said executable code.		<p>converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...</p> <p>... and instruct control means, 226, to activate printer, 221.</p>	<p>page 477 line 8.</p> <p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p>	<p>second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221....</p>	
297. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	Page 477 lines 8-23.	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the</p>	

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification	Reference	Language
communicating said executable code to said	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and	which, in a predetermined fashion, signal processor, 200, decrypts and transfers	<p>controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>The frequencies may convey television, radio, or other programming transmissions.... The</p>	<p>Page 281 lines 1-6.</p> <p>Page 282 line 2 to page 283 line 33.</p> <p>Page 478 lines 1-5.</p> <p>Page 15 lines 16-23.</p>	<p>control, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>The frequencies may convey television, radio, or other programming transmissions.... The</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
processor and further comprising the step of:		information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
actuating one of a video output device, an audio output device, and a print output device to output said data in said specific fashion on the basis of said executable code.	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	<p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p>	<p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark;</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmit particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, to the particular channel transmission of said multi-channel cable transmission that is identified by said</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	<p>Page 426 lines 10-18.</p> <p>Page 419 line 34 to page 420 line 2.</p> <p>Page 11 lines 5-10.</p>	<p>channel mark.</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T & T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T & T news item.)</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.</p>
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298. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	<p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p>	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features</p>
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
communicating said executable code to said processor and further comprising the step of:	Column 17 lines 39-46.	<p>which, in a predetermined fashion, signal processor, 200, decrypts and transfers</p> <p>to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.</p> <p>Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external</p>	<p>Page 282 line 2 to page 283 line 33.</p> <p>Page 478 lines 1-5.</p> <p>Page 15 lines 16-23.</p>	<p>provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
decrypting at least a portion of said data on the basis of said executable code.	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	<p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p>	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert")</p>

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		which, in a predetermined fashion, signal processor, 200, decrypts and transfers	Page 282 line 2 to page 283 line 33.	<p>control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p>
		to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	

299. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	Page 477 lines 8-23.	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features</p>
			Page 281 lines 1-6.	

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
communicating said executable code to said processor and further comprising the step of:	Column 17 lines 39-46.	<p>which, in a predetermined fashion, signal processor, 200, decrypts and transfers</p> <p>to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.</p> <p>Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external</p>	<p>provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
controlling a selective transfer device to communicate said data to said output device on the basis of said executable code.	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	<p>Page 423 lines 11-13.</p> <p>Page 424 lines 2-9.</p> <p>Page 426 lines 10-18.</p>	<p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark;</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmit particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so</p>

Claim Language	Support to parent application filed November 3, 1981		Support to instant specification	
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	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	<p>Page 419 line 34 to page 420 line 2.</p> <p>Page 11 lines 5-10.</p>	<p>doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.</p>
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300. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,	<p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p>	<p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations</p>
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Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
communicating said executable code to said processor and further comprising the step of:		which, in a predetermined fashion, signal processor, 200, decrypts and transfers	Page 282 line 2 to page 283 line 33.	<p>preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of</p> <p>controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which</p>
		to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	
	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating	Page 15 lines 16-23.	
			Page 34 lines 24-26.	

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		the operation of such external equipment.	<p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
generating a receiver specific datum to present with said data on the basis of said executable code.	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Reference	Language
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Microcomputer, 205, evaluates the initial signal word or words which instruct it to the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ... And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	Page 24 lines 5-6. Page 451 lines 7-9. Page 451 line 3. Page 26 lines 8-11.	
301. The method of claim 294, wherein said instructions incorporate executable code, said method including the step of	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal processor, 200,		In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ... By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.") ... the information of said segments is encrypted prior to transmission ... The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message.	Page 477 lines 8-23. Page 281 lines 1-6. Page 282 line 2 to page 283 line 33.	which, in a predetermined fashion, signal processor, 200, decrypts and transfers

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communicating said executable code to said processor and further comprising the step of:			Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ... Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111". (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)		
		to decrypt, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.		Page 478 lines 1-5.	
	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.		Page 15 lines 16-23. Page 34 lines 24-26. Page 44 lines 14-15. Page 95 lines 18-21.	The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ... A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message

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delivering a receiver specific datum, at said interactive mass medium program output apparatus, one of simultaneously and sequentially with one of said mass medium programming and said data on the basis of said executable code.				Page 390 lines 26-29.	is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...		Page 25 line 33 to page 26 line 2.. Page 37 line 26 to page 38 line 8.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and

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	Column 19 line 67 to column 20 line 7.	<p>The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, and prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 9.</p> <p>Page 451 line 22 to page 452 line 5.</p>	<p>transmit the combined information to TV monitor, 202M.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio-- eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks</p>

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				<p>in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
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302. A method of controlling a receiver station including the steps of:	Column 10 line 64 to column 11 line 3.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93. The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 17-27.	<p>In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. The other path inputs the transmission of said given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.</p> <p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...</p>
detecting one of the	Column 6 lines 48-50.	This base band signal is then transmitted	Page 34 line 35 to page 325 line 2.	This base band signal is then transferred

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presence and the		through separate paths to three separate detector devices.	35 line 1.
	Column 7 lines 47-49.	Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 30 lines 29-30.
absence of	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they ... look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.	Page 258 lines 10-19.
one of a broadcast	Column 6 lines 23-26.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.	Page 29 lines 4-7.
control signal	Column 8 lines 58-60.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 290 lines 26-31.
		... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...	
		In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...	Page 291 lines 21-24.
		through separate paths to three separate detector devices.	
		Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.	
		Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.	
		Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.	
		... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...	
		In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...	

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and a cablecast	Column 6 lines 23-26.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
control signal;	Column 8 lines 58-60.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 29 lines 4-7. Page 290 lines 26-31.	Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...
			Page 291 lines 21-24.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...
			Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
inputting an instruct-to-react signal to a processor	Column 8 lines 27-29.	The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3.	Page 248 line 35 to page 249 line 5.	In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.
based on said step of detecting;	Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller,	Page 251 lines 3-8.	Thereafter, the embedded information ... is caused to be recorded ... in the same fashion

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	<p>20, and pass them to controller, 20, over control information lines.</p> <p>Column 8 line 68 to column 9 line 4.</p>		<p>Page 253 lines 10-11.</p> <p>Page 253 lines 19-22.</p> <p>Page 258 lines 10-19.</p>	<p>that the embedded information of said message is detected and recorded at decoder, 203, in example #3.</p> <p>Finally, controller, 39J, transmits particular detection-complete information to controller, 20; ...</p> <p>Receiving said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 5.</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
controlling said processor to output specific information in response to said step of inputting; and	Column 9 lines 53-57.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.	Page 257 line 24 to page 258 line 19.	<p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30,</p>

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		<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.</p>	<p>Page 265 line 27 to Page 266 line 21.</p> <p>Page 250 lines 13-17.</p> <p>251 lines 8-11.</p> <p>Page 263 lines 19-24.</p>	<p>controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>

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			For example, page 224 lines 12-16.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...
	Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...

303. The method of claim 302, wherein a buffer is operatively connected to said processor for buffering input, said method further comprising the step of:	Column 8 lines 7-12.	Buffer/comparator, 14, also has means for determining, in a predetermined fashion, when signals require transfer immediately to a remote site and for communicating such a requirement to controller, 20, and such signals directly with the remote site via telephone connection, 22.	Page 32 lines 16-20.	Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer.
	Column 8 lines 20-25.	The signal processor apparatus also has a controller device which includes programmable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.	Page 33 lines 7-12.	Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22.
			Page 156 line 33 to page 157 line 10.	Fig. 3A shows one such preferred controller, 39.

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inputting said instruct-to-react signal directly to said processor.			One aspect of the preferred embodiment of controller, 39, is a series of buffers and processors at which forward error correction, protocol conversion, and the invoking of controlled functions take place in series. Buffer, 39A, and processor, 39B, are the first buffer and processor of the series and perform the forward error correcting functions of controller, 39. Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. Buffer, 39E, and control processor, 39J, are the third buffer and processor. All controlled functions invoked at controller, 39, by received SPAM signals are invoked at control processor, 39J.	
			As Fig. 3A shows, each processor, 39B, 39D, and 39J, has associated RAM and ROM and, hence, constitutes a programmable controller in its own right.	Page 157 line 34 to page 158 line 1.
	Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Thereafter, the embedded information ... is caused to be recorded ... in the same fashion that the embedded information of said message is detected and recorded at decoder, 203, in example #3.	Page 251 lines 3-8.
	Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they ... look for in predetermined fashions.	Finally, controller, 39J, transmits particular detection-complete information to controller, 20; ... Receiving said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 5. Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from	Page 253 lines 10-11. Page 253 lines 19-22. Page 258 lines 10-19.

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		set by and changeable by controller, 20, fail to appear.	<p>Page 254 line 23 to page 255 line 3.</p>	<p>the input of wireless channel 9 to decoder, 30, controller, 20, automatically causes control processor, 39J, to cause all apparatus of decoder, 30, cease receiving SPAM message information and delete all information received on said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>... information and transmit it to digital detector, 34; causing digital detector, 34, to detect the binary information of said signal information and transfer said binary information to controller, 39. Receiving said binary information at controller, 39, causes the binary SPAM information of the wireless channel 5 transmission to be checked and corrected, as necessary, at processor, 39B; converted into locally usable binary information at processor, 39D; and checked for end of file signal information at EOFs valve, 39F, and transmitted to the null output of matrix switch, 39I, until EOFs valve, 39F, detects an end of file signal. In due course, said EOFs valve, 39F, receives the aforementioned end of file signal causing said valve, 39F, to detect said signal and transmit the aforementioned interrupt signal of EOFs-signal-detected information to said control processor, 39J. Receiving said EOFs-signal-detected ...</p> <p>In due course said remote wireless station transmits the end of file signal that terminates said information segment, and the EOFs valve, 39F, of decoder, 30, receives and detects said signal, in its end of file detecting fashion, causing said valve, 39F, to transmit the aforementioned EOFs-signal-detected information to said control processor, 39J. Just as applied in the case of the 2nd</p>
			<p>Page 259 lines 3-29.</p>	

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			<p>command (#5), receiving said EOFs-signal-detected information causes control processor, 39J, to cause EOFs valve, 39F, to discard all information of said end of file signal; to cause said matrix switch, 39I, to cease transferring SPAM message information from said EOFs valve, 39F, to its null output information and commence transferring SPAM message information from said valve, 39F, to said control processor, 39J; then to cause EOFs valve, 39F, to recommence processing inputted signal words in its preprogrammed fashion and transferring said words to matrix switch, 39I; and to commence waiting to receive from said switch, 39I, the binary information of a subsequent SPAM header.</p> <p>Subsequently, said remote wireless station transmits the second combining synch command of the "Wall Street Week" program. (Hereinafter, said command may be called the "3rd command (#5):")</p>
304. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit</p>
			<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to</p>

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			page 437 line 3.	<p>message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
controlling a tuner to tune a receiver to receive the one of said television channel and said television programming designated by said processed datum.	Column 19 lines 27-29.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor,</p>

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	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 437 lines 1-6.	<p>202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	

305. The method of claim 302, wherein said datum processes a least one specific channel of one of a	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205.</p>
			Page 267 lines 20-28 from example #5.	

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multichannel cable signal and a	Column 6 lines 23-26.	A signal processor apparatus for simultaneous use with a cablecast input that	<p>Page 436 line 9 to page 437 line 3.</p> <p>Page 439 lines 14-15.</p> <p>Page 29 lines 4-7.</p>	<p>Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
multichannel broadcast signal, said method further comprising the step of:		conveys both television and radio programming and a broadcast television input is shown in Figure 1.		for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.
controlling a tuner to tune a converter to receive the at least one specific channels designated by said processed datum.	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
	Column 19 lines 23-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...
			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
			Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its

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			Page 439 lines 9-15.	associated converter box, 201, to convert itsto cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
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306. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"</i></p>
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Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
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controlling a selective transfer device to	Column 19 lines 27-29.	Page 439 lines 14-15.	<p><i>program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable channel 13; ...</p>
input to a control signal detector at least a portion of the one of said television channel and said television programming designated by said processed datum.	Column 19 lines 43-49.	Page 21 lines 23-24. Page 451 lines 6-7.	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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		microcomputer, 205.		<p>originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p>
		These signals instruct microcomputer, 205, ...	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p>	

307. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to</p>
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Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

				<p>the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
			Page 439 lines 14-15.	
controlling a control signal detector to search for at least one control signal in the one of said television channel and said television programming designated by said processed datum.	Column 17 lines 28-33.	... control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.)	Page 318 lines 2-7.	<p>By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, ...</p>

308. The method of claim 302, wherein said	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the
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Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.
<p>processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:</p>		<p>externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification: xxx Language
		These signals instruct microcomputer, 205, ...	Page 24 lines 5-6.	<p>44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p>
<p>309. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:</p>	Column 19 lines 17-23.	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects</i></p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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				<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
controlling a computer to respond to control signals detected in the one of said television channel and said television programming designated by said processed datum.	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification:	
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			retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	<p> Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ... </p>
		<p> This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. </p> <p> The viewer then sees a microcomputer generated graphic of his own stocks' performance ... </p>	Page 26 lines 4-11.	

310. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	<p> ... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. </p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p> In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ... </p> <p> All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) </p>
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Claim Language	Support to parent application filed November 3, 1981	Support to instant specification
Reference	Language	Reference
Language	Language	Language
		<p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
<p>controlling a television monitor to display one of video and audio contained in the one of said television channel and said television programming designated by said processed datum.</p>	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 436 line 9 to page 437 line 3.</p> <p>Page 439 lines 14-15.</p> <p>Page 445 line 24 to page 446 line 1.</p>
	<p>Column 19 lines 27-29.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p>

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			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
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311. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to</i></p>

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			<p>view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>	<p>Page 439 lines 14-15.</p>
controlling a video recorder to one of record and play one of video and audio contained in the one of said television channel and said television programming designated by said processed datum.	Column 19 lines 23-27.	<p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 437 lines 1-6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p>	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>

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	Reference	Language

			Page 445 lines 24-27. Page 446 lines 18-23.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,.... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
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312. The method of claim 302, wherein said processor processes a datum designating one of a television channel and television programming, said method further comprising the step of:	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18. Page 267 lines 20-28 from example #5. Page 436 line 9 to page 437 line 3.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to</i></p>
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			Page 439 lines 14-15.	<p><i>view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
controlling a selective transfer device to communicate to one of a video recorder and a television monitor the one of said television channel and said television programming designated by said processed datum.	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 437 lines 1-6.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p>	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p>

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification
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			<p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
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<p>313. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a</p>	<p>Column 19 lines 17-23.</p>	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>
<p>controlling a selective transfer device to input to</p>	<p>Column 19 lines 27-29.</p>	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 445 line 24 to page 446 line 1.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor,</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a control signal detector at least a portion of the at least one specific channel designated by said processed datum.	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	<p>Page 446 lines 17-21.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p> <p>Page 451 lines 7-9.</p>	<p>202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...</p>

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	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	This base band signal is then transferred through separate paths to three separate detector devices.
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314. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares</p>
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Claim Language	Reference	Language	Reference
multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:	Column 6 lines 23-26.	<p>said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>	<p>Page 439 lines 14-15.</p> <p>Page 29 lines 4-7.</p>
controlling a control signal detector to search for at least one control signal in the at least one specific channel designated by said processed datum.	Column 17 lines 28-33.	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p> <p>... control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.)</p>	<p>Page 318 lines 2-7.</p> <p>By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, ...</p>
315. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a	Column 19 lines 17-23.	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>

Claim Language	Support to parent application filed November 3, 1981		Support to instant specification	
	Reference	Language	Reference	Language

step of:				
controlling a selective transfer device to	Column 19 lines 27-29.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
input to a computer, control signals detected in the at least one specific channel designated by said processed datum.	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 446 lines 17-21. Page 21 lines 23-24. Page 451 lines 6-7. Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber

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		Reference

	These signals instruct microcomputer, 205, ...	Page 24 lines 5-6.	station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
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316. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week"</p>

Support to parent application filed November 3, 1981.		Support to instant specification:	
Claim Language	Reference	Language	Reference
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:</p>	Column 6 lines 23-26.	<p><i>program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CCI3-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable channel 13; ... Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>	<p>Page 439 lines 14-15. Page 29 lines 4-7.</p>
	Column 19 lines 42-44. Column 19 lines 46-53.	<p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 21 lines 20-24. Page 23 line 35 to page 24 line 16.</p>

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		Reference		Reference	
		Language		Language	
			<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p>	<p>44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
317. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands</p>	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.
Reference	Language	Reference
controlling a television monitor to display one of video and audio contained in the at least one specific channel designated by said processed datum.	Column 19 lines 27-29. ...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 445 line 24 to page 446 line 1.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>Page 446 lines 17-21.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
318. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a	Column 19 lines 17-23. ... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 439 lines 14-15.</p> <p>Page 29 lines 4-7.</p>	<p>determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p>
<p>controlling a video recorder to one of record and play one of video and audio contained in the at least one specific channel designated by said processed datum.</p>	<p>Column 19 lines 23-27.</p>	<p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 437 lines 1-6.</p>	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
<p>319. The method of claim 302, wherein said processor processes a datum designating at least one specific channel of one of a</p>	<p>Column 19 lines 17-23.</p>	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
<p>multichannel cable signal and a multichannel broadcast signal, said method further comprising the step of:</p> <p>controlling a selective transfer device to</p>	<p>Column 6 lines 23-26.</p>	<p>A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1.</p>	<p>Page 436 line 9 to page 437 line 3.</p> <p>Page 439 lines 14-15.</p> <p>Page 29 lines 4-7.</p> <p>Page 437 lines 1-6.</p>	<p>programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.</p> <p>Determining a match causes microcomputer, 205, automatically to input said</p>

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
communicate to one of a storage device and an output device the at least one specific channel designated by said processed datum.		may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and</p>	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
receiving a television transmission, said transmission comprising at least a portion of said plurality of units of television programming and identification information identifying each of said received units of television programming;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
storing said received units of television programming and said identification information on a first storage device;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
detecting said identification information stored at a first storage location on said first storage device;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
determining that said detected identification information identifies a scheduled unit of said plurality of scheduled units of television programming; and	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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				<p>and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
communicating said scheduled unit of television programming to a subscriber.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language	
					received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	</				

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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encoding an identification signal in the unit of programming;	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
			Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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			transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.	Page 28 lines 26-27. Page 49 lines 26-27.	
storing the unit of programming including the encoded identification signal in a first storage location;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	... to cause said selected recorder, 76 or 78, to turn on and record programming. ...	Page 329 line 15-16.	
transferring the unit of programming including the encoded identification signal to a second storage location;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ... Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33. Page 331 lines 16-25.	

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				media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
	controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.		For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to

Claim Language	Support to parent application filed November 3, 1981: Reference	Language	Reference	Support to instant specification: Language
			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
storing the transferred unit of programming including the encoded identification signal in the second storage location;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	<p>Page 332 lines 24-30.</p> <p>Page 333 lines 15-21.</p>	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder,</p>

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Reference	Language
		<p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing</p>	<p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play</p>		

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
		appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	<p>according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders</p>	<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>

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transmitting the unit of programming including the encoded identification signal from the second storage location to a subscriber at the scheduled time and on the scheduled channel or frequency according to said step of scheduling; and	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.

322. The method of claim 321, further comprising the step of billing a customer based on said step of verifying.	Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.
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	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
		first, ordered	Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.

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		and, second, delivered.	<p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to Page 474 line 1.</p>	<p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>
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323. The method of claim 322, wherein said step of verifying comprises the steps of: detecting the encoded identification signal during said step of transmitting; and	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
generating a log identification when and on which channel or frequency the unit of programming was transmitted.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate

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	field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
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324. The method of claim 323, wherein said step of billing comprises the step of billing a customer based on said log.	Column 12 lines 50-53. Column 12 lines 54-56. Column 20 lines 54-58.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs. Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively. when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site.	Page 337 lines 12-19. Page 337 lines 19-21. Page 28 lines 25-35.	By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs. And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively. [Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records
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		<p>that site can determine for billing purposes that the recipe was,</p> <p>first, ordered</p> <p>and, second, delivered.</p>	<p>that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,...</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p> <p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567# ...</p> <p>Receiving said message causes the</p>
		<p>that site can determine for billing purposes that the recipe was,</p>	<p>Page 44 lines 26-30.</p>
			<p>Page 471 lines 26-31.</p>
			<p>Page 473 lines 3-8.</p>
		<p>first, ordered</p>	<p>Page 472 lines 23-27 with</p>
			<p>Page 471 lines 14-16.</p>
		<p>and, second, delivered.</p>	<p>Page 473 line 29 to</p>

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			Page 474 line 1.	controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
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325. The method of claim 321, wherein said step of receiving comprises the step of receiving the unit of programming from a remote source via satellite,	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
and said step of storing the unit of programming in a first storage location comprises a step of having a computer automatically store the received unit of programming in the first storage location.	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission

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				inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
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326. The method of claim 321, wherein said step of receiving comprises the step of receiving a video tape or disc containing the unit of programming at a facility.	Column 10 lines 48-49.	Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.	Page 325 lines 5-6.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.
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327. The method of claim 321, wherein said step of scheduling comprises the steps of: receiving information identifying when the unit of programming should be transmitted an on which channel or frequency the unit of programming should be transmitted; and storing said information.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 39-41.	... received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 line 10. Page 326 lines 28-30.	... received earlier from input, 74, and/or network, 98, computer, 73, receiving input information from local input, 74, and from remote stations via

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			transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
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329. The method of claim 321, wherein said step of encoding comprises using a signal generator to embed a digital identification signal in the unit of programming.	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency. ... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
			Page 14 line 35 to page 15 line 2.	
			Page 36 lines 2-3.	
			Page 36 lines 19-20.	
	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	

330. The method of claim 321, wherein said step of storing the unit of programming at a first storage location comprises the step of	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
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storing the unit of programming on a first video recorder; and	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
said step of transferring comprises transferring the unit of programming from the first video recorder to a second video recorder; and	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.

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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to</p>
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			For example, page 333 lines 15-21.	the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 334 lines 1-6.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
said step of storing the transferred unit of programming in the second storage location comprises the step of storing the transferred unit of programming on the second video recorder.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	
			Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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	<p>to reorganize the order in which programing units are stored on either recorder/player or on both,</p>	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>
	<p>to reorganize the order in which programing units are stored on either recorder/player or on both,</p>	<p>Page 331 lines 16-25.</p>
	<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p>
		<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	<p>modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>

331.	The method of	Column 11 lines 41-43.	... controller/computer, 73, can determine	Page 328 lines 11-13.	... computer, 73, can determine, in a
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claim 330, wherein said step of transferring comprises the steps of: outputting the stored unit of programming at the scheduled time from the second video recorder;	<p>Column 11 lines 44-46.</p> <p>Column 10 lines 49-52.</p>	<p>when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>	<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
connecting an output of the second video recorder to the scheduled channel or frequency; and	Column 10 lines 40-45.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, ...	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...
transmitting the outputted unit of programming on the scheduled channel or frequency.	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.

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	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
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332. The method of claim 331, wherein said step of connecting comprises the steps of: configuring a switch to connect the output of the second video recorder to the scheduled channel or frequency of a modulator; and	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30. Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of

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				programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
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333. A method of communicating programming to a subscriber comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
receiving a unit of programming from a remote source;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
scheduling a time for transmitting the unit of programming and a channel or frequency for transmitting the unit of program;	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
encoding an identification signal in the unit of programming;	Column 11 lines 6-7.	... pass them, along with information identifying the channel source of each signal, externally to code reader, 72.	Page 326 lines 7-11.	... adds, ... source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.

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		Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
storing the unit of programming including the identification signal on a first video recorder;		Column 11 lines 64-65. Column 16 lines 25-32.	... instructs the recorder/player, 76 or 78, to turn on and record the programming. One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 329 line 15-16. Page 319 lines 23-30.	... to cause said selected recorder, 76 or 78, to turn on and record programming. ... One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
transferring the unit of programming including the identification signal to a second video recorder;		Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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	<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>
		<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>

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storing the transferred unit of programming including the	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.		modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of

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identification signal in the second video recorder;			Page 333 lines 15-21.	<p>recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p>
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p>
			Page 334 lines 1-6.	<p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
			Page 331 line 17 to	See generally.

Claim Language	Reference	Language	Reference	Support to instant specification. Language
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well-known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>page 334 line 6 For example, page 331 lines 17-33.</p>	<p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the</p>
			<p>For example, page 332 lines 23-31.</p>	
			<p>For example, page 333 lines 15-21.</p>	

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Claim Language	Reference	Language	Reference
		output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.	For example, page 334 lines 1-6.
outputting the stored unit of programming including the identification signal from the second video recorder at the scheduled time;	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.
connecting an output of the second storage device to a channel modulator corresponding to the scheduled channel or frequency;	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.
modulating the unit of programming;	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.
		For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information	

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				matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
transmitting the modulated unit of programming to a subscriber over a cable network;	Column 12 lines 47-50.	... which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
detecting the encoded identification signal in the transmitted unit of programming; and	Column 18 lines 30-37.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 36 lines 32-33. Page 38 lines 11-14. Page 411 lines 10-15	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus. ... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
	for recording and subsequent transmission to a remote data collection site.		Page 418 line 23 to page 419 line 15. Page 411 line 28 to page 412 line 2.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission. In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in
			Page 173 line 30 to	The station of Fig. 3 is preprogrammed to

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Language	Language	Language
		<p>collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>Page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
generating a log identifying at least the unit of programming and when and on which channel or frequency the unit of	Column 18 lines 36-37.	<p>... for recording and subsequent transmission to a remote data collection site.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
programming was transmitted.	Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	<p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p> <p>Page 337 lines 12-19.</p>	<p>may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>

334.	The method of	Column 18 lines 38-41.	Simultaneously, processor, 200, is also	Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity,
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			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
	first, ordered		Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
			Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.
	and, second, delivered.		Page 471 lines 14-16.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...
			Page 473 line 29 to Page 474 line 1.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.

335. A transmission station apparatus for communicating programming, said apparatus comprising:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
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	Reference	Language	Reference	Language
		facility that cablecasts several channels of television programming.		
a receiver for receiving an information transmission, said transmission comprising a unit of programming;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
a first video recorder operationally connected to said receiver for storing the received unit of programming;	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
a second video recorder operationally connected to said second video recorder;	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78, ...
a switch operationally connected to said second video recorder;	Column 10 lines 41-42.	... connect, by means of conventional switches (here matrix switch, 75), to ...	Page 324 line 34.	... a conventional matrix switch, 75, well known in the art, ...
a computer operationally connected to said video recorders and said switch;	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
a signal encoder operationally connected to said computer for	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as

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encoding a signal into the unit of programming;		to programming as required.		required.
a channel modulator operationally connected to said switch for modulating the unit of programming output by said switch;	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
a cable network operationally connected to said modulator for transmitting the modulated unit of programming to a subscriber;	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a verification circuit operationally connected to at least one of said switch and said modulator for verifying when and on which channel or frequency the modulated unit of programming is transmitted, said verification circuit comprising a signal decoder for decoding encoded signals on the modulated unit of programming;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...

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	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
said computer programmed to perform the following steps of: (a) receiving and storing a programming schedule identifying when and on which channel or frequency the received modulated unit of programming should be transmitted to a subscriber;	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 39-41.	... received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 line 10. Page 326 lines 28-30.	... received earlier from input, 74, and/or network, 98, computer, 73, receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...

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(b) controlling the recorders to output the received modulated unit of programming from the first video recorder to the second video recorder;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33. Page 331 lines 16-25. Page 334 lines 1-6.	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder</p>

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Language
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>For example, page 332 lines 23-31.</p>	<p>Computer, 73, causes recorder, 78, to move</p>
			<p>For example, page 333</p>		

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				lines 15-21.	forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
(c) controlling the second video recorder to store the modulated unit of programming outputted from the first video recorder;				For example, page 334 lines 1-6.	
	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.		Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary		Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		to reorganize the order in which programming units are stored on either		Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
				Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units

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		recorder/player or on both,		of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			Page 331 line 17 to page 334 line 6	<i>See generally.</i>
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize

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			the locations of said units to play according to said schedule, computer 73, ...
			Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
(d) controlling the second video recorder to output the modulated unit of programming at the scheduled time;	Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be

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		prerecorded programming can be transmitted to the field.		transmitted via switch 75 to field distribution system, 93.
(e) controlling the switch to connect the output of the second video recorder to the channel modulator to modulate the outputted modulated unit of programming onto the scheduled channel or frequency and to transmit the modulated unit of programming to the subscriber over the cable network.	Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.

336. The apparatus of claim 335, wherein said verification circuit comprises: a signal decoder electrically connected to said switch for detecting an encoded signal in a unit of programming output by said switch; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
said computer being electrically connected to said signal decoder.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said

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			SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
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337. The apparatus of claim 335, wherein said verification circuit comprises a signal processor electrically connected to said modulator or said cable network, said signal processor comprising a signal decoder for decoding a signal encoded in a unit of programming, said signal processor generating a log identifying the unit of programming based on the signal encoded in the unit of programming, the log identifying at least when and on which channel or frequency the unit of programming is transmitted.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
	Column 18 lines 30-37.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.

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			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
			Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the

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				<p>SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synchronizing command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p>
	for recording and subsequent transmission to a remote data collection site.		<p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p>	

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			Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
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338. A transmission station apparatus for communicating programming, said apparatus comprising:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
a receiver for receiving an information transmission comprising a unit of programming;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
a first video recorder operationally connected to said receiver for storing and outputting	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...

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the unit of programming;				
a second video recorder operationally connected to said first video recorder, said second recorder storing the unit of programming output by said first video recorder;	Column 10 lines 42-43. Column 11 lines 66-67.	... one or more video recorder/players, 76 and 78, ... Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 324 line 35. Page 332 lines 24-30. Page 333 lines 15-21.	... one or more recorder/players, 76 and 78, causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y ...
a switch operationally connected to said second video recorder;	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30. Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y ...
a computer operationally connected	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with

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to said first video recorder, said second video recorder and said switch for controlling said first video recorder to output the unit of programming to said second video recorder and controlling said second video recorder to output the unit of programming to said switch;			matrix switch, 75, and video recorder/players, 76 and 78.		matrix switch, 75, and video recorders, 76 and 78,
a signal encoder operationally connected to said computer for encoding a signal on the unit of programming;	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.		Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
a channel modulator operationally connected to said switch for modulating the unit of programming including the encoded signal output by said second video recorder through said switch;	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...		Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
a cable network operationally connected to said modulator for transmitting the modulated unit of programming to a subscriber; and	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.		Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a verification circuit	Column 12 lines 45-53.	Beyond channel combining system and		Page 337 lines 1-19.	Fig. 6 shows particular signal processor

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<p>operationally connected to at least one of said switch and said modulator for verifying when and on which channel or frequency the modulated unit of programming is transmitted, said verification circuit comprising a signal decoder for decoding encoded signals on the modulated unit of programming.</p>		<p>multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>		<p>system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>	
<p>339. A method of communicating programming from a receiver station to a subscriber, said method comprising the steps of:</p>	<p>Column 10 lines 24-28.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p>		<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>	
<p>selecting a storage device from one of a plurality of programming storage devices;</p>	<p>Column 11 lines 60-61.</p>	<p>... controller/computer, 73, selects a video recorder/player, 76 or 78, ...</p>		<p>So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...</p>	
<p>storing a unit of</p>	<p>Column 11 lines 64-65.</p>	<p>... instructs the recorder/player, 76 or 78,</p>		<p>... to cause said selected recorder, 76 or 78, to</p>	

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programming at a storage location on the selected storage device;			to turn on and record the programming.		turn on and record programming, ...
storing information indicating that the unit of programming is stored on the selected storage device and indicating the storage location of the unit of programming on the selected storage device;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...	
receiving a broadcast or cablecast transmission comprising an embedded signal, the embedded signal identifying the unit of programming or designating communication of the embedded signal to a subscriber;	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...	
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said	

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					transmission that are addresses to ITS apparatus of said intermediate transmission station;....
					A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
					Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
					By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
					SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
					... monitor information that identifies what programming is available, ...
					Meter-monitor segments contain meter

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detecting the embedded signal;		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	information and/or monitor information. At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
determining which of the plurality of programming storage devices is storing the unit of programming and the storage location of the unit of programming in response to the detected embedded signal, said step of determining being performed by a receiver station computer based upon (1) the detected signal and (2) the stored information indicating the storage device and the storage location		Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary	Page 332 lines 24-30. Page 333 lines 15-21. Page 331 lines 17-33.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D. Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play

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storing the unit of programming;		<p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel</p>

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			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 330 lines 5-15.</p>	<p>modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media)</p>

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		76 and 78 respectively, and what signals it contains.		loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
outputting, under control of the receiver station computer, the unit of programming from the selected storage device in response to said step of determining;	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
embedding data identifying said outputted unit of programming in said outputted unit of	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

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programming;	Column 9 lines 4-8.	Oscillator, 6, the controller, 20, and buffer/comparator, 8, can interact in such a fashion that buffer, 8, can identify the channel that any given signal is received on and mark the signal for subsequent identification of the channel.	Page 258 lines 17-25.	... said wireless channel 9 and causes scillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30.
			Page 260 lines 5-13.	... commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) ...
			Page 270 lines 5-12.	Receiving any given old programming message causes onboard controller, 14A, to ... determine that the channel mark ... in said old programming message matches the channel mark ... of a selected monitor information record previously initiated ...
communicating information from the receiver station to a subscriber comprising the outputted unit of programming and the embedded data;	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

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detecting the embedded data in the information that is communicated from the receiver station;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent

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generating a record or log indicating that the unit of programming was communicated based on said step of detecting the embedded data.	Column 18 lines 30-37.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,		instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
			Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.

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			<p>Page 38 lines 11-14.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>	
			<p>Page 411 lines 10-15</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p>	
	for recording and subsequent transmission to a remote data collection site.		<p>Page 418 line 23 to page 419 line 15.</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor,</p>	
			<p>Page 411 line 28 to page 412 line 2.</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor,</p>	
			<p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor,</p>	

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			<p>200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
			<p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>

340. A method of communicating programming from a receiver station to a subscriber, said method comprising the steps of:	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
storing a unit of	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78,	... to cause said selected recorder, 76 or 78, to

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television or radio programming at a first storage device;		to turn on and record the programming.		turn on and record programming. ...
transferring the unit of programming to a second storage device; storing the unit of programming on the second storage device;	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders

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		<p>controllor/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p> <p>For example, page 332 lines 23-31.</p>	<p>because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of</p>

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			<p>program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>	<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>		<p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>
storing information indicating that the unit of programming has been transferred to the second storage device and that the unit of programming is now stored on the second storage device;	<p>Column 11 lines 44-46.</p> <p>Column 12 lines 26-29.</p>	<p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p> <p>Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.</p>	<p>Page 328 lines 14-16.</p> <p>Page 330 lines 5-15.</p>			

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storing information indicating the storage location of the unit of programming on the second storage device;	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.
	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.
receiving a broadcast or cablecast transmission comprising an embedded signal, said embedded signal identifying the unit of programming or designating its communication to a subscriber;	Column 10 lines 61-63.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.
		Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ... Cable program controller and computer, 73, is the central automatic control unit for the transmission station.	
		The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.	
		Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor	

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detecting the embedded signal;				<p>information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	<p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>

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<p>determining which of the plurality of programming storage devices that is storing the unit and the storage location of the unit of programming in response to detecting the embedded signal, said step of determining being performed by a receiver station computer based upon (1) the detected signal and (2) the stored information indicating the storage device storing the unit of programming and the stored information indicating the storage location of the unit of programming;</p>	<p>Column 11 lines 38-43.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder,</p>
				<p>Page 84 lines 26-28.</p>
				<p>Page 28 lines 26-27.</p>
				<p>Page 49 lines 26-27.</p>
				<p>Page 332 lines 24-30.</p>
	<p>Column 11 lines 66-67.</p>	<p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.</p>		<p>Page 333 lines 15-21.</p>

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	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
outputting, under control of the receiver station computer, the unit of programming from the second storage device in response to said step of determining;	Column 11 lines 41-43. Column 10 lines 49-52.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 328 lines 11-13. Page 325 lines 6-9.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ... When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
embedding data identifying said outputted unit of programming in said outputted unit of programming;	Column 12 lines 38-41. Column 11 lines 6-7.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required. ... pass them, along with information identifying the channel source of each signal, externally to code reader, 72.	Page 354 lines 21-24. Page 326 lines 7-11.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required. ... adds, ... source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and

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communicating information from the receiver station to a subscriber comprising the outputted unit of programming and the embedded data;	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	transfers said selected messages, with said source mark information, to code reader, 72. When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
detecting the embedded data in the information that is communicated from the receiver station;	Column 12 lines 45-50.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 1-12.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
generating a record or log indicating that the unit of programming was communicated based on said step of detecting the embedded data.	Column 12 lines 45-53.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 1-19.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field

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		<p>distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
<p>341. A method of communicating subscriber station information from a subscriber station to one or more remote data collection stations, said method comprising the steps of:</p>	<p>The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.</p>	<p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station.</p> <p>... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.</p>
<p>receiving at a subscriber station information that designates</p>	<p>The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, ...</p>	<p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p>
<p>an instruction to be processed or</p>	<p>Five minutes later, a signal is identified in the incoming programming on TV set, 202,</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the</p>

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receiving a user reaction to				#4.) Page 475 lines 1-2. <i>In General</i> Page 15 lines 16-23. Page 34 lines 24-26. Page 44 lines 14-15. Page 95 lines 18-21. <i>Specifically</i> Page 472 lines 4-12. Page 37 line 26 to page 38 line 8.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list. The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ... A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ... Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205. ... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal
		<i>In General</i> Column 17 lines 39- 44. <i>Specifically</i> Column 20 lines 29-30.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. ... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.		

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an output at said subscriber station;		<i>In General</i> Column 17 lines 39-41.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, ...	<i>In General</i> Page 15 lines 16-23.	information should be transferred; and to transfer said signals to said apparatus. The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
		<i>Specifically</i> Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	<i>Specifically</i> Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
processing an instruct signal which is effective to identify and control communication of one of a unit of television programming and an output to supplement a television program at said subscriber station in response to said user reaction at said subscriber station,		Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...
				476 line 34 to page 477 line 8.	Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ... (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said

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said processing at said subscriber station directed by instructions from said instruct signal;	Column 20 lines 31-33.	... that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, ...	Page 477 lines 8-17.	<p>message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>... and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p>
generating an indicium that said instruct signal was delivered or	Column 20 lines 49-54.	Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the	Page 473 line 29 to page 474 line 1	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor,

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confirming identification and control of said one of a unit of television programming and an output;	Column 20 lines 42-46.	recipe, itself, has been received. Then, as part of the predetermined operation, signal processor, 200, conveys to its data recorder, 16, information that the 567 order was placed by the viewer and all necessary equipment was enabled.	Page 314 line 30-33. Page 472 lines 23-27. Page 473 line 29 to page 474 line 1.	200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above. At printer, 221, is other decoder, 227. At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus. ...Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information. Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
transferring said indicium from said subscriber station to one or more remote data collection stations.	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called

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		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	<p>"ratings" stations that collect statistical data on programming availability and usage.</p> <p>... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...</p>
			Page 471 lines 26-31.	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information, ...</p>
			Page 473 lines 3-8.	<p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...</p>
	first, ordered		Page 472 lines 23-27 with	<p>Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.</p>
			Page 471 lines 14-16.	<p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ...--enters TV567# ...</p>
	and, second, delivered.		Page 473 line 29 to Page 474 line 1.	<p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal</p>

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				record of meter information in the fashion described above.
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342. A method of controlling a network comprising a remote intermediate television transmitter station and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
one or more receiver stations,	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming

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with said remote intermediate television transmitter station including a broadcast or cablecast transmitter	Column 10 lines 15-20.	of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 396 lines 8-10.	such as television or radio is displayed to persons.
		The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a plurality of selective transfer devices each operatively connected at least some of the time to said broadcast or cablecast transmitter for communicating said one or more first units of television programming,	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
a television receiver,	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a

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a control signal processor,		Column 11 lines 3-5.	received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.		satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
			Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...
and a controller or computer capable of controlling one or more of said plurality of selective transfer devices, and		Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
with said remote transmitter station		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
				Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted

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adapted to process one or more control signals,		instruction and information signals from their associated programming and ...	Page 59 lines 29-33	transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...
	Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
to control the communication of said one or more first units of television programming	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	For example, page 531 lines 17-22. Page 329 line 2-20.	Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 ... Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73,

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in response to said one or more control signals,	Column 11 lines 38-46.	to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	Page 327 line 35 to page 328 line 13.
		SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....	Page 84 lines 26-28.
		... monitor information that identifies what	Page 28 lines 26-27.

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and to deliver at said broadcast or cablecast transmitter said one or more first units of television programming, said method comprising the steps of:	Column 11 lines 30-31.	... transmit each program unit to cable field distribution system, 93.	<p>programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>... each program unit, ... the station should transmit the unit, ...</p> <p>... transmit the programming of each received program unit.</p>
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	<p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 326 line 35 to page 327 line 2.</p> <p>Page 328 line 13.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
receiving said one or more first units of television programming to be transmitted by said remote intermediate television transmitter station and	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	<p>Page 324 lines 23-33.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...</p>
delivering said one or more first units of	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio	<p>Page 59 lines 29-33.</p> <p>A SPAM message is the modality whereby the original transmission station that originates</p>

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<p>television programming to one or more origination transmitters,</p> <p>said one or more first units of television programming having one or more first codes or data to identify and control communication of said one or more first units of television programming;</p>	<p>originating the programming and is transmitted in the programming transmission.</p> <p>Column 9 lines 31-33.</p> <p>Signal processor, 71, has means, described above, to identify and separate the</p>	<p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted</p>	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p> <p>Page 325 line 34 to page 326 line 7.</p>	<p>said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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		instruction and information signals from their associated programming and ...	Page 59 lines 29-33	<p>transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in</p>
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	
			Page 84 lines 26-28.	

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			television or radio or other programming transmissions ...
			... monitor information that identifies what programming is available, ...
			Meter-monitor segments contain meter information and/or monitor information.
receiving said one or more control signals which	Column 11 lines 21-31.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
at said remote intermediate television transmitter station operate to control communication of said one or more first units of television programming based on said one or more first codes or data; and	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each
			Page 28 lines 26-27.
			Page 49 lines 26-27.
			Page 326 line 30 to page 327 line 2.
			Page 327 line 35 to page 328 line 13.

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p>	<p>received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p>
transmitting said one or more control signals from said one or more origination transmitters before a specific time.	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 326 line 33 to</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Such input information can indicate when and</p>

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		when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	page 327 line 2.	how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...	
343. The method of claim 342, wherein said one or more control signals enable said remote intermediate television transmitter station to communicate said one or more first units of television programming to at least a first storage location and	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause	
			Page 84 lines 26-28.		
			Page 28 lines 26-27.		
			Page 49 lines 26-27.		
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed	Page 329 line 2-20.		

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<p>at least one of said one or more first codes or data and said one or more first units of television programming is transmitted at said specific time.</p>	<p>Column 11 lines 38-43.</p>	<p>transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

344. The method of claim 343, wherein said one or more control signals enable said remote intermediate television transmitter station to communicate at least a first of said one or more first units of television programming from said at least a first storage location to a second storage location in said network,	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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			<p>transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 332 lines 24-30.</p> <p>Page 333 lines 15-21.</p> <p>Page 331 lines 17-33.</p> <p>Page 331 lines 16-25.</p>	<p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.</p> <p>If controller/ computer, 73, determines at any time that it is necessary</p> <p>to reorganize the order in which programming units are stored on either recorder/player or on both,</p>	
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			<p>recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to</p>
		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>
			<p>For example, page 332 lines 23-31.</p>

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<p>said method further comprising the step of embedding at least one of said one or more first codes or data in a signal containing said at least a first of said one or more first units of television programming.</p>	<p>Column 9 lines 31-33.</p>	<p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p>	<p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p> <p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p>	<p>rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in</p>

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				a frequency other than a television or radio frequency.
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<p>345. The method of claim 342, wherein said one or more control signals enable said remote intermediate television transmitter station to store and communicate at least two of said one or more first units of television programming at different times,</p> <p>said method further comprising the step of including in said one or more control signals at least one datum</p>	Column 11 lines 38-43.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 11 lines 28-31.	<p>Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.</p>	Page 326 line 33 to page 327 line 2.	

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designating at least one designated time of said different times.				
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346. The method of claim 345, wherein said one or more control signals enable said remote intermediate television transmitter station to transmit at least a first of said one or more first units of television programming at said at least one designated time,	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
said method further comprising the step of including data in said one or more control	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message

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<p>signals which operate at said remote intermediate transmitter station to perform at least one comparison prior to said at least one designated time.</p>			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>347. The method of claim 342, wherein said one or more control signals enable said controller or computer to control said one or more of said plurality of selective transfer devices based on at least one comparison with said one or more first codes or data,</p>	<p>Column 11 lines 38-46.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with</p>

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said method further comprising the step of including in said one or more control signals a second of said one or more first codes or data for comparison.				information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
			Page 326 lines 31-33.	... with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 22-24.	... with each discrete unit of programming identified with a unique program code ...		Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	

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					By comparing selected meter-monitor information of said message informing with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available , ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
348. The method of claim 347, wherein said remote intermediate television transmitter station is programmed to communicate to said controller or computer digital data received in one or more varying locations or timing patterns in an information transmission containing said one or more first units of television programming.	Column 8 lines 27-32.	The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3. This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired.	Page 248 line 35 to page 249 line 5. Page 253 lines 22-35.	In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. Automatically oscillator, 6, causes switch, 1, to shift its contact lever from the first alternate contact to the second alternate contact to which wireless transmissions are inputted and causes mixer, 3, to select the frequency of channel 5 and input said frequency of interest, at a fixed frequency, to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-5 instruction to said control processor, 39J, that informs said	

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<p>said method further comprising the step of transmitting at least one of said one or more first codes or data and said one or more control signals in said one or more varying locations or timing patterns.</p>	<p>Column 4 lines 14-18.</p> <p>Column 9 lines 31-33.</p>	<p>The embedded signals may run and repeat continuously throughout the programing or they may run only occasionally or only once. They may appear in various and varying locations.</p> <p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p>	<p>Page 265 line 30 to page 266 line 4.</p> <p>Page 14 lines 3-6.</p> <p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page</p>	<p>processor, 39J, wireless channel 5 is inputted to decoder, 30.</p> <p>Receiving said wireless-5 instruction causes control processor, 39J, to cause all apparatus of decoder, 30, to comence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.</p> <p>Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40. Controller, 20, then transmits a particular preprogrammed radio-99.0 instruction to control processor, 44J, that informs said processor, 44J, 99.0 MHz is inputted to decoder, 40.</p> <p>Receiving said radio-99.0 instruction causes control processor, 44J, to cause all apparatus of decoder, 40, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.</p> <p>In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations.</p> <p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one</p>

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			<p>15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p>	<p>or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p>
<p>349. The method of claim 348, wherein a portion of said information transmission causes said one or more receiver stations to process a digital television signal.</p>	<p>Column 19 lines 60 to page 20 line 2.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV</p>

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			Page 451 line 3.	monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed.
350. The method of claim 348, further comprising the step of transmitting in said one or more varying locations or timing patterns one or more instruct signals which operate to control said one or more receiver stations.	Column 17 lines 47-49.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
	Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.	Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.
	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.

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351. The method of claim 342, wherein said remote intermediate television transmitter station is programmed to identify signals according to one or more varying patterns of composition,	Column 8 lines 32-35.	The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns.	Page 33 lines 18-20. For example, page 290 line 11 to page 291 line 4.	<p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>... executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time (when said originating studio commences transmitting the "Wall Street Week" program), controller, 20, causes all apparatus of the TV signal decoder, 30, to delete from memory all information of received SPAM information; transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; causes said control processor, 39J, to cause digital detectors, 34, 37, and 38, to cease inputting detected information to controller, 39, and commence discarding said information (which said detectors, 34, 37, and 38, have capacity to do) and to cause particular apparatus of decoder, 30,--for example, line receiver, 33, and digital detector, 34--to commence receiving and inputting to controller, 39, SPAM information</p>
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select at least identification signals, and communicate said selected at least identification signals to said controller or computer,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 13 lines 19-24. Page 325 line 34 to page 326 line 7.	<p>detected in the frequency inputted to decoder, 30; ...</p> <p>They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS station,....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS</p>
select at least identification signals, and communicate said selected at least identification signals to said controller or computer,	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 59 lines 29-33 Page 325 line 34 to page 326 line 11.	

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said method further comprising the step of transmitting at least one of said one or more first codes or data in an identification signal pattern of composition.	Column 4 lines 14-18.		Page 326 lines 16-18.	apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
		The embedded signals may run and repeat continuously throughout the programing or they may run only occasionally or only once. They may appear in various and varying locations.	Page 14 lines 3-6.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations.
			Page 14 line 35 to page 15 line 2.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 36 lines 2-3.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 19-20.	... processes signal information embedded in an inputted radio frequency.
				... processes signal information embedded in a frequency other than a television or radio frequency.

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352. The method of claim 351, wherein a portion of said information transmission causes said one or more receiver stations to process a digital television signal.	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
			Page 26 lines 4-11.	
			Page 451 line 3.	

353. The method of	Column 8 lines 58-60.	Control signals can be passed to the	... causes the oscillator, 6, then to cause
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<p>claim 35I, wherein said one or more control signals program or reprogram said remote intermediate television transmitter station to identify said at least identification signals according to said identification signal pattern of composition,</p>	<p>apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.</p> <p>The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns.</p> <p>Column 8 lines 32-35.</p>	<p>switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p> <p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>... executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time (when said originating studio commences transmitting the "Wall Street Week" program), controller, 20, causes all apparatus of the TV signal decoder, 30, to delete from memory all information of received SPAM information; transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a</p> <p>Page 291 lines 21-24.</p> <p>Page 59 lines 29-31.</p> <p>Page 33 lines 18-20.</p> <p>For example, page 290 line 11 to page 291 line 4.</p>

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<p>said method further comprising the step of including in said one or more control signals one or more second codes or data for comparison.</p>	<p>Column 11 lines 3-5.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 13 lines 19-24.</p>	<p>particular controlled-function-invoking information location; causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; causes said control processor, 39J, to cause digital detectors, 34, 37, and 38, to cease inputting detected information to controller, 39, and commence discarding said information (which said detectors, 34, 37, and 37, have capacity to do) and to cause particular apparatus of decoder, 30,--for example, line receiver, 33, and digital detector, 34--to commence receiving and inputting to controller, 39, SPAM information detected in the frequency inputted to decoder, 30; ...</p> <p>They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p>

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	<p>Column 11 lines 38-39.</p> <p>By comparing identification signals on the incoming programming ...</p>		<p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>

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354. The method of claim 351, further comprising the step of transmitting in said one or more varying patterns of composition one or more instruct signals which operate to control said one or more receiver stations.	Column 19 lines 43-44. ... instruction signals embedded in the "Wall Street Week" programming transmission. Column 4 lines 14-18. The embedded signals may run and repeat continuously throughout the programming or they may run only occasionally or only once. They may appear in various and varying locations.	Page 21 lines 23-24. Page 14 lines 3-6. In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations.
355. The method of claim 342, wherein said plurality of selective transfer devices include a switch and a storage device and said one or more control signals include a first control signal which causes said switch to communicate said one or more first units of television programming to said storage device and a second control signal which causes said storage device to store said one or more first units of television programming.	Column 11 lines 44-46. Column 11 lines 61-64. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78. ... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, instructs the recorder/player, 76 or 78, to turn on and record the programming.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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356. The method of claim 355, further comprising the step of transmitting a third control signal which causes said storage device to output said one or more first units of television programming and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...

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transmitter.	Column 11 lines 54-57. Column 10 lines 49-52.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 328 line 31 to page 329 line 1. Page 325 lines 6-9. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
357. The method of claim 356, wherein said first, second, third, and fourth control signals comprise a schedule.	Column 11 lines 18-31.	The controller/computer, 73, has means for receiving input information from local input, 74, and from telephone or other data transfer sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 27 to page 327 line 2. Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
358. The method of claim 342, wherein said	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more	Page 324 line 34-35. ... a conventional matrix switch, 75, well known in the art, one or more

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one or more of said plurality of selective transfer devices comprises a storage device and	Column 11 lines 64-65.	video recorder/players, 76 and 78, ...	Page 329 line 15-16.	recorder/players, 76 and 78,	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...	
said one or more control signals include a first control signal which causes said storage device to store said one or more first units of television programming and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.		Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
a second control signal which causes said storage device to communicate said one or more first units of television programming to said broadcast or cablecast transmitter.	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.		Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...	
	Column 10 lines 49-52.	When played on video recorder and	Page 325 lines 6-9.		When played on video recorders, 76 and 78,	

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		players, 76 and 78, or other similar equipment well known in the art, such as prerecorded programming can be transmitted to the field.	or other similar equipment well known in the art, such as prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
359. The method of claim 342, wherein said one or more of said plurality of selective transfer devices include one or more switches and said one or more control signals cause said one or more switches to communicate said one or more first units of television programming from one of a plurality of sources to said broadcast or cablecast transmitter.	Column 10 lines 41-42. Column 11 lines 54-57.	... connect, by means of conventional switches (here matrix switch, 75), to controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	... a conventional matrix switch, 75, well known in the art, ... In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
360. The method of claim 359, wherein said plurality of sources include a plurality of storage locations.	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and

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		equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
361. The method of claim 359, wherein said plurality of sources include a plurality of receivers, each said receiver capable of receiving said one or more first units of television programming from said one or more origination transmitters.	Column 10 lines 30-39.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
362. The method of claim 359, wherein said plurality of sources include at least one storage device and at least one receiver capable of receiving said one or more first units of television programming from said one or more origination transmitters.	Column 10 lines 30-47.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions. All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players,	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more

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		76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.		recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
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363. The method of claim 342, wherein said one or more first units of television programming include a first unit of television programming and a second unit of television programming,	Column 11 lines 22-24.	... with each discrete unit of programming identified with a unique program code ...	Page 326 lines 31-33.	... with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original

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said method further comprising the step of transmitting one or more second codes or data.	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 28 lines 26-27.	transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 49 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 326 lines 27-30.	Meter-monitor segments contain meter information and/or monitor information.
				Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.

364. The method of claim 363, wherein said remote intermediate television transmitter station determines when or how to communicate at least one of said first and second units of television programming based on said one or more second codes or data.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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365. The method of claim 364, wherein said remote intermediate television transmitter station compares said one or more first codes or data to said one or more second codes or	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,
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data,			and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
said method further comprising the step of including said one or more second codes or data in said one or more control signals.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27. Page 325 line 34 to page 326 line 7. Page 59 lines 29-33	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission

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	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	consists of a series or stream of sequentially transmitted SPAM messages. ... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
			Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.

366. The method of claim 364, wherein said one or more second codes or data designate said second unit of television programming	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission

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and said remote intermediate television transmitter station	Column 11 lines 22-24.	... with each discrete unit of programming identified with a unique program code ...	Page 326 lines 31-33.	consists of a series or stream of sequentially transmitted SPAM messages. ... with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input,	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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determines when or how to communicate said second unit of television programming based on a comparison,	Column 9 lines 31-33. said method further comprising the step of transmitting a plurality of second codes or data, at least a first of said plurality of second codes or data being in a signal containing said second unit of television programming,	74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27. Page 22 lines 1-6. Page 14 line 35 to page 15 line 2. Page 36 lines 2-3.	71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
				... monitor information that identifies what programming is available, ...
				Meter-monitor segments contain meter information and/or monitor information.
		A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.		... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
				Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in

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at least a second of said plurality of second codes or data being in said one or more control signals.	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 36 lines 19-20. Page 325 line 34 to page 326 line 7.	... processes signal information embedded in a frequency other than a television or radio frequency. At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....	an inputted radio frequency.
	Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 59 lines 29-33 Page 326 lines 27-30.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.	
367. The method of claim 366, further comprising the step of transmitting a plurality of said one or more first codes or data.	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p> <p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution</p>

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		<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
		<p>Page 84 lines 26-28.</p>
		<p>Page 28 lines 26-27.</p>
		<p>Page 49 lines 26-27.</p>

<p>368. The method of claim 364, wherein said one or more first codes or data designate said first unit of television programming and said remote intermediate television transmitter station determines when or how to communicate said first unit of television programming based on a comparison,</p>	<p>Column 11 lines 38-43.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>
	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
<p>said method further comprising the step of transmitting a plurality of first codes or data, at least a first of said plurality of first codes or data being in a signal unit containing said first programming,</p>	<p>Column 9 lines 31-33.</p> <p>Column 11 lines 3-5.</p>	<p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p> <p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p> <p>Page 325 line 34 to page 326 line 7.</p>	<p>should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68,</p>

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at least a second of said plurality of first codes or data being in said one or more control signals.	Column 11 lines 18-31.	<p>The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programming. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.</p> <p>... with the programming schedule ...</p>	<p>Page 49 lines 26-27.</p> <p>Page 326 line 27 to page 327 line 2.</p> <p>Page 328 lines 9-10.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information. Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p> <p>... with information of the programming schedule, ...</p>
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369. The method of claim 342, wherein said remote intermediate television transmitter station is adapted to store and communicate a plurality of units of television programming based on a plurality of comparisons, said plurality of units of television programming including said one or more first units of television	Column 11 lines 38-43.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a</p>
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p> <p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>
	Column 11 lines 3-5.	By comparing identification signals on the incoming programming ...		

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			By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27.
including in said plurality of second codes or data, said first identification and at least one other identification, said other identification to identify at least a second of said plurality of units of television programming.	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.

371. The method of claim 370, wherein said remote intermediate television transmitter station is adapted to locate a beginning or	Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform the controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 line 5 to Page 331 line 3.	Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>end of a unit of television programming stored at a memory,</p>	<p>Column 9 lines 31-33.</p>	<p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p>	<p>Page 22 lines 1-6.</p>	<p>embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...</p>
<p>said method further comprising embedding a second identification in a signal containing said one or more first units of television programming having one or more first codes or data, said second identification to designate said beginning or end.</p>	<p>Column 12 lines 29-34.</p>	<p>(Among other signals, a program unit could contain signals that would inform the controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)</p>	<p>Page 14 line 35 to page 15 line 2. Page 36 lines 2-3. Page 36 lines 19-20. Page 330 line 5 to Page 331 line 3.</p>	<p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency. Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming</p>

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			played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...
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372. The method of claim 342, wherein said remote intermediate television transmitter station is adapted to store and communicate a first plurality of units of television programming and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
to identify a second plurality of units of television programming,	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
said method further comprising the steps of: including in said one or more first codes or data a first identification; and	<p>Column 11 lines 3-5.</p> <p>transfer incoming programming to the proper output channel.</p> <p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p> <p>By comparing identification signals on the incoming programming ...</p> <p>Column 11 lines 38-39.</p>	<p>switches so as to transfer said incoming programming to a scheduled output channel.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of</p>	<p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p>	

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including in said one or more control signals at least one other identification, said other identification to identify at least one of said first plurality of units of television programming.				each received program unit. SPAM signals are generated at original transmission stations or intermediate television or radio or other programming transmissions monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.

373. The method of claim 372, wherein said remote intermediate television transmitter station is adapted to maintain one or more logs.	Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 12-19.	By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
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374. The method of claim 342, wherein said remote intermediate television transmitter	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
station is adapted to store and communicate a first plurality of units of television programming and				example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
to identify a second plurality of units of television programming,	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
said method further comprising the step of including in said one or more control signals a first identification and a second identification, said first identification to identify at least a first of said one or more first units of television programming, said second identification to identify at least one of said first plurality of units of television programming.	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.

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375. The method of claim 374, wherein said one or more control signals comprise a complete television programming transmission schedule in respect of said second plurality of units of television programming.	Column 11 lines 21-24.	Such input information might include the cable television system's complete unit of programming identified with a unique program code ...	Page 326 lines 30-33. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
376. The method of claim 374, wherein said remote intermediate television transmission station immediately retransmits said at least a first of said one or more first units of television programming,	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program
said method further including the step of transmitting from said one or more origination transmitters at least a second of said one or	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the	Page 328 line 22 to page 329 line 1. Page 329 line 2-20.

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more first units of television programming, said at least a second of said one or more first units of television programming to be stored for delayed retransmission.		incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...		unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

377. The method of claim 374, wherein said one or more control signals comprise a complete television programming transmission schedule in respect of said first plurality of units of television programming.	Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule, ...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6, ...
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378. The method of	Column 12 lines 45-53.	Beyond channel combining system and	Page 337 lines 1-19.	Fig. 6 shows particular signal processor
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claim 374, wherein said remote intermediate television transmitter station maintains a complete programming transmission log in respect of said second plurality of units of television programming.		<p>multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93. Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>		<p>system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5. By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.</p>
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379. A method of controlling a remote intermediate television transmitter station,	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing signal.</p>
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Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
said remote intermediate television transmitter station including a broadcast or cablecast transmitter	Column 10 lines 24-28.	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p> <p>The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.</p>	<p>the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p>	<p>command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>	
for transmitting a plurality of units of television programming,	Column 10 lines 43-47.	<p>... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>	Page 325 lines 1-4.	<p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.</p> <p>... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>	
one or more television receivers each operatively connected at least some of the	Column 10 line 61 to column 11 line-3.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53,	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Support to instant specification. Reference	Language
time to said broadcast or cablecast transmitter for receiving one or more first units of television programming from one or more remote origination transmitter stations,		paths described above. At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93. The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 17-27.	54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire ...
one or more selective transfer devices each operatively connected at least some of the time to said broadcast or cablecast transmitter for communicating at least one of said plurality of units of television programming,	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	In line between each of the aforementioned receiver/ demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. The other path inputs the transmission of said given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.
a control signal processor,	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the	Page 325 line 34 to page 326 line 7.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92. At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted

Claim Language	Support to parent application filed November 3, 1981	Language	Reference	Support to instant specification	Language
<p>and a controller or computer capable of controlling said one or more selective transfer devices, said one or more selective transfer devices including a memory storing a signal containing one or more second units of television programming and one or more first codes or data to identify and control communication of said one or more second units of television programming, and with said remote intermediate television transmitter station adapted to process one</p>	<p>Column 11 lines 44-46.</p>	<p>instruction and information signals from their associated programming and ...</p> <p>Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 59 lines 29-33</p> <p>Page 328 lines 14-16.</p>	<p>transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message</p>

Claim Language		Support to parent application filed November 3, 1981.	Support to instant specification.
Reference		Language	Reference
<p>or more control signals, to control communication of one or more of said first and second units of television programming in response to said one or more control signals, and to deliver at said broadcast or cablecast transmitter said plurality of units of television programming, said method comprising the steps of:</p>		<p>98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			<p>... monitor information that identifies what programming is available, ...</p>
			<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	<p>Column 10 lines 49-52.</p>	<p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>	<p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
(1) receiving one or more control signals which at said remote intermediate television transmitter station operates to control communication of said plurality of units of	<p>Column 11 lines 3-5.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68,</p>

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Reference	Language
television programming based on said one or more first codes or data; and	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Page 59 lines 29-33</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p>	<p>69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p>		

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(2) transmitting said one or more control signals from said one or more origination transmitters before a specific time.			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 25-28.	Such input information might also indicate when and where the cable head end facility should expect to receive the programming.	Page 326 lines 33-35.	Such input information can indicate when and how the station should expect to receive each program unit, ...
	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
			Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.

380. A method for receiving, storing and displaying a plurality of messages at a television receiver station,	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
said receiver station having a receiver section, a processor,	Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.

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		Reference	Language	Reference	Language
a storage device and		Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	<p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p>
a user input device, said method comprising the steps of:		Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 420 lines 3-4.	<p>The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...</p>
receiving a signal at said receiver station receiver section;		Column 18 lines 47-48.	... and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 5-6.	... and to receive and process automatically news items about said stocks and about the industries of said stocks.
processing said signal to extract a message from said plurality of messages based on said step of receiving;		Column 18 lines 55-62.	... microcomputer, 205, instructs signal processor, 200, to hold examples of the sought for unique signals in its buffer/comparator, 8, and compare them with all incoming signals. Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 288 lines 13-20.	<p>As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p>
				Page 420 line 6 to page 423 line 10.	<p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
				<p>preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T"....</p> <p>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. ...</p> <p>Receiving said Select-AT&T-News-Item message causes ... said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...</p> <p>Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p>
storing said extracted message in a storage device; and	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	<p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p>
displaying said extracted message on a	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to	Page 426 lines 10-18.	<p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so</p>

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television display in response to a user input at said user input device.			printer, 221, for printing ...		doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T&T news item.)
	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.		Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
381. The method of claim 380, further comprising the steps of: storing said plurality of messages;	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...		Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T&T news item.)
selecting said extracted message from said plurality of messages to	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...		Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer,

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification	
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display based on said user input.	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.) Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.	
382. A method for receiving, assembling, and storing a message at a subscriber station, said subscriber station having a receiver section, a processor, a storage device and a controller, said method comprising the steps of:	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.	
receiving a plurality of discrete signals at said subscriber station and inputting at least a portion of said plurality	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.	

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Claim Language	Reference	Language	Reference
of discrete signals to said receiver station;	Column 3 lines 3-8.	<p>each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	<p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ...</p> <p>In due course, said remote news-service-A station ...</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
processing said plurality of discrete signals to extract at least one message based on the step of receiving;	Column 18 lines 55-62.	<p>... microcomputer, 205, instructs signal processor, 200, to hold examples of the sought for unique signals in its buffer/comparator, 8, and compare them with all incoming signals. Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.</p>	<p>As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information</p>

Claim Language	Support to parent application filed November 3, 1981: Reference	Language	Reference	Support to instant specification: Language
				<p>at said RAM is an instance of said binary information of "T" ...</p> <p>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. ...</p> <p>Receiving said Select-AT&T-News-Item message causes ... said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...</p> <p>Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p>
storing said plurality of discrete signals in a storage device;	Column 4 lines 34-36.	[The meanings of the signals] may be obscured through encryption so that apparatus described below are necessary to decrypt them.	Page 13 lines 17-19.	Such means and methods include techniques for encrypting programming and/or instructions and decrypting them at subscriber stations.
assembling said plurality of discrete signals into a signal comprising said at least one message; and	Column 2 line 63 to column 3 line 3.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 26-32.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.
controlling said storage device to one of store said at least one	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer,

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message and communicate said at least one message.	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	<p>Page 419 line 34 to page 420 line 2.</p> <p>Page 11 lines 5-10.</p>	<p>221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)</p> <p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.</p>
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383. A method of controlling a receiver station which includes a mass medium program receiver,	<p>Column 10 lines 24-28.</p> <p>Column 10 lines 30-39.</p>	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p> <p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59.</p>	<p>Page 324 lines 18-21.</p> <p>Page 324 lines 23-31.</p>	<p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions</p>
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Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	<p>Column 3 lines 3-8.</p> <p>Column 7 lines 37-39.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	<p>Page 14 line 32 to page 15 line 2.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p>

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<p>said method of controlling comprising the steps of:</p> <ul style="list-style-type: none"> receiving mass medium programming and an instruct signal which is effective at the receiver station to at least one of extract and assemble said at least one message and 	<p>Column 10 lines 30-39.</p>	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 156 line 33.</p> <p>Page 157 lines 5-7.</p> <p>Page 14 lines 22-25.</p> <p>Page 324 lines 23-31.</p> <p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the</p>

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	<p>original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and</p>	<p>Page 14 line 32 to page 15 line 2.</p> <p>Page 37 lines 22 to page 38 line 10.</p>
<p>Column 3 lines 3-8.</p> <p>Column 7 lines 37-39.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	

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				to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus. Fig. 3A shows one such preferred controller, 39. Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
delivering said mass medium programming and said instruct signal to a transmitter;	Column 11 lines 46-50.		Page 156 line 33. Page 157 lines 5-7. Page 14 lines 22-25.	
receiving said at least one message and communicating said at least one message to a signal embedder;	Column 11 lines 18-21. Column 12 lines 38-41.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel. The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. ... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 328 lines 18-22. Page 326 lines 27-30. Page 354 lines 21-24.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel. Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. ... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
controlling said signal embedder to embed said at least one message in an information transmission in a	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

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<p>pattern of said plurality of discrete signals, said pattern of said plurality of discrete signals having at least one of varying composition, varying timing, and varying location;</p>	<p>Column 9 lines 47-57.</p>	<p>The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.</p>	<p>Page 248 line 17 to page 249 line 5.</p>	<p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
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		<p>The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at a particular time interval.</p>	<p>Page 257 line 24 to page 258 line 19.</p>	<p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchron command.</p>
	<p>This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.</p> <p>...</p>		<p>Page 265 line 27 to Page 266 line 21.</p>	
			<p>Page 250 lines 13-17.</p>	

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			Page 251 lines 8-11. Page 263 lines 19-24. Page 37 lines 26-28. Page 13 lines 19-24.	Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
	Column 4 lines 36-40.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.		
communicating said information to said transmitter; and	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75; to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
transmitting said mass medium programming and said information transmission.	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

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384. The method of claim 383, wherein said at least one message includes an instruction.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
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385. The method of claim 383, wherein said at least one message includes information, said information including at least one of audio, video, and data.	Column 11 lines 18-21. Column 19 lines 37-39.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98. [Microcomputer, 205,] may receive these directly or it may automatically query a data service for them in a predetermined fashion. ... and to receive news about these particular stocks and about the industries they are in. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 326 lines 27-30. Page 449 lines 26-35. Page 420 lines 5-6. Page 339 lines 11-23.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion. ... and to receive and process automatically news items about said stocks and about the industries of said stocks. ... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming
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				... Likewise, said station can transmit broadcast print and data communications programming ...
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386. A method of controlling receipt and processing at a receiver station of at least one identification signal; said receiver station including	Column 19 lines 27-29.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
			Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber

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			<p>Page 24 lines 5-6.</p> <p>Page 451 lines 7-9.</p>	<p>station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...</p>
<p>a receiver and</p> <p>a processor, said method comprising the steps of:</p>	<p>Column 19 lines 27-28.</p> <p>Column 19 lines 63-64.</p>	<p>... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...</p> <p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 445 line 24 to page 446 line 1.</p> <p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
<p>receiving said at least one identification signal that identifies specific signal content for at least one of a plurality of concurrent</p>	<p>Column 19 lines 14-20.</p>	<p>... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.</p>	<p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact</p>

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			<p>of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment)</p> <p>then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new -program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions</p>
			<p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>

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transmissions, wherein	Column 6 lines 26-30.	<p>Signal processor, 200, receives this instruction from microcomputer, 205,</p> <p>which reacts in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.</p>	<p>Page 288 lines 16-20.</p> <p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28.</p> <p>Page 435 lines 16-25.</p> <p>Page 29 lines 11-15.</p>	<p>described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st-and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>The inputted information is the entire range of</p>

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said plurality of concurrent transmissions comprises one of (i) a plurality of concurrent broadcast signal transmissions, (ii) a plurality of concurrent cablecast signal transmissions, and (iii) a plurality of concurrent broadcast and cablecast signal transmissions;		range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
providing a comparison signal to said processor;	Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
comparing said comparison signal to said at least one identification signal and generating a control signal identifying a desired signal transmission of said plurality of concurrent transmissions;	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said

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			<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p>	<p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p>
<p>tuning the receiver, based on the generated control signal, to receive said desired signal transmission of said plurality of concurrent transmissions; and</p>	<p>Column 19 lines 27-29.</p>	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week"</p>

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		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33. Page 38 lines 11-14. Page 411 lines 10-15	transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ... Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus. ... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
		for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information

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			<p>of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st" monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p>
			<p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>
controlling one of a receiver and a selective transmission device to	Column 18 lines 62-67.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable	<p>Page 423 lines 11-13.</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by</p>

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communicate to one of a output device and a storage device an electronic message received in said desired signal transmission.		converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	<p>Page 424 lines 2-9.</p> <p>Page 426 lines 10-18.</p>	<p>said channel mark; ...</p> <p>Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T&T news item.)</p>	
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387. A method of controlling a remote intermediate mass medium programming transmitter station to communicate mass medium program material to	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch</p>	
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			the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
at least one receiver station,	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
with said remote intermediate mass medium programming transmitter station including one of a broadcast transmitter and a cablecast	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons. Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
			The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels

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transmitter for transmitting mass medium programming,	Column 10 lines 43-47.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 325 lines 1-4.	simultaneously. ... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
a plurality of selective transfer devices each operatively connected to said one of a broadcast transmitter and a cablecast transmitter,	Column 10 lines 41-43.	... by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 line 34-35.	... a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78,
a mass medium programming receiver,	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
a control signal detector, and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission

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one of a controller and computer capable of controlling	Column 11 lines 15-17.	station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,	Page 59 lines 29-33
at least one of said plurality of selective transfer devices, said remote intermediate mass medium programming transmitter station adapted to	Column 11 lines 44-46.		Page 326 lines 19-20. Page 328 lines 14-16.
detect at least one control signal,	Column 11 lines 3-5.		Page 325 line 34 to page 326 line 7. Page 59 lines 29-33
		At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially	

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to control communication of said mass medium programming	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	transmitted SPAM messages. This base band signal is then transferred through separate paths to three separate detector devices.
	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
in response to said at least one control signal, and	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input,	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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<p>to deliver to said one of a broadcast transmitter and a cablecast transmitter said mass medium programming, said method comprising the steps of:</p>	<p>Column 11 lines 30-31.</p>	<p>74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 lines 14-16.</p> <p>Page 326 line 35 to page 327 line 2.</p> <p>Page 328 line 13.</p> <p>Page 325 lines 6-9.</p>	<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...</p> <p>... each program unit, ... the station should transmit the unit, ...</p> <p>... transmit the programming of each received program unit.</p> <p>When played on video recorders, 76 and 78,</p>

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<p>receiving said mass medium programming to be transmitted by said remote intermediate mass medium programming transmitter station and delivering said mass medium programming to a transmitter, wherein said mass medium programming is operative to identify and communicate an electronic message;</p>	<p>Column 19 lines 60-63.</p>	<p>players, 76 and 78, or other similar equipment well known in the art, such as prerecorded programming can be transmitted to the field.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p>	<p>or other similar equipment well known in the art, such as prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>	
<p>receiving said at least one control signal</p>	<p>Column 11 lines 3-14.</p>	<p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.</p>	<p>Page 325 line 34 to page 326 line 11.</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated</p>	

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at said remote intermediate mass medium programming transmitter station to control communication of said mass medium programming; and	Column 11 lines 38-46. By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72. Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
		Page 326 lines 16-18.
		Page 327 line 35 to page 328 line 13.
		Page 84 lines 26-28.
		Page 28 lines 26-27.
		Page 49 lines 26-27.

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transmitting said at least one control signal to said transmitter			Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can</p>

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before a specific time.	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 326 line 33 to page 327 line 2.</p>	<p>determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit,....</p>
<p>388. The method of claim 387, wherein said at least one control signal includes one of a code and</p> <p>a datum which</p> <p>operates at the remote intermediate mass medium programming transmitter station to</p>	<p>Column 2 lines 63-66.</p> <p>Column 3 lines 6-8.</p> <p>Column 7 lines 36-37.</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Buffer/comparator, 8, organizes the data stream that it receives according to a predetermined fashion ...</p>	<p>Page 14 lines 27-29.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 30 lines 7-9.</p> <p>Page 36 line 32 to page</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.</p> <p>Each decoder is controlled by a controller,</p>

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identify said specific programming of said mass medium programming, said method further comprising the step of:	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	37 line 3. Page 327 line 35 to page 328 line 13.	39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
transmitting a schedule which	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 lines 9-10. Page 326 lines 28-30.	... with information of the programming schedule, received earlier from input, 74, and/or network, 98, receiving input information from local

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operates at the remote intermediate mass medium programming transmitter station to	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	input, 74, and from remote stations via telephone or other data transfer network, 98. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM mark message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
communicate said specific programming of said mass medium programming to a transmitter at said specific time.	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to	Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27. Page 328 line 22 to page 329 line 1.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that

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		transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.		said "code" information matches particular programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
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389. A method of processing signals	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
at a receiver station to	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused

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<p>deliver a selected output</p> <p>to supplement mass medium programming, said receiver station having</p> <p>a processor,</p>	<p>Column 19 line 53-56.</p> <p>Column 19 lines 67 to column 20 line 2.</p> <p>Column 19 lines 42-43.</p>	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p> <p>Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to ...</p>	<p>Page 25 lines 26-33.</p> <p>Page 451 line 3.</p> <p>Page 26 lines 8-11.</p> <p>Page 450 lines 31-32.</p>	<p>his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>And the Fig. 1C combining is displayed.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>... caused his microcomputer, 205, to be preprogrammed as described above; ...</p>

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a storage device, and at least one output device, said method comprising the steps of:	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 21 lines 20-23.
	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 420 lines 3-4.
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 1-8.
storing user data of interest;	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 451 line 3. Page 26 lines 8-11.
receiving said mass medium programming at said receiver station from a mass medium programming source	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 420 lines 3-4. Page 437 lines 1-6.
		Microcomputer, 205, is preprogrammed to ... respond ... to ... The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ... Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ... Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...	

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and outputting said mass medium programming to said at least one output device,	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 451 lines 25-32.</p>	<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the</p>

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said at least one output device adapted to output said mass medium programming;			graphic.		subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
receiving one of a broadcast information and a cablecast information transmission at said receiver station,	Column 6 lines 26-30.	As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 11-15.		The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
said at least one of a broadcast information and a cablecast information transmission including at least one instruct signal	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.		At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.		The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
			Page 451 line 3.		And the Fig. 1C combining is displayed.
to direct said selected output to supplement said mass medium programming;	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 8-11.		TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

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detecting at least one instruct signal in said one of a broadcast information transmission and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
a cablecast information transmission and passing said detected at least one instruct signal to a processor; and	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
controlling said processor based on said detected at least one instruct signal, said step of controlling comprising the steps of:	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
(a) identifying and communicating an	Column 20 lines 37-42.	The signal transmission from processor, 204, also passes a signal word to signal	Page 477 lines 8-23.	In this alternate method, ... said first SPAM message causes controller, 20, of signal

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electronic message to supplement said mass medium programming based on said stored user data of interest;	processor, 200, 				

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(b) directing said electronic message to supplement said mass medium programming to said at least one output device.	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 473 lines 3-13. Page 477 lines 12-17. Page 477 lines 23-29. Page 478 lines 1-5. Page 475 lines 1-2.	in the method of the first message of example #4.) One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe-... instructions selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission.... ... causes ... said decoder, 290, to detect and process properly the information of said second message. (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.) Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
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390. The method of claim 389, wherein said selected output is one of video,	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2. Page 37 line 26 to	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; In each decoder, the controller, 39, 44, or
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				page 38 line 8.	47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.	Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
audio,		Column 18 lines 19-22.	These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.	Page 410 lines 10-11.	Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209, ...
text,		Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 473 lines 3-13.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... generate-recipe... instructions ...

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and electronic data, said method further comprising one selected from the group consisting of:			Page 477 lines 12-17.	... selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission....
			Page 477 lines 23-29.	... causes ... said decoder, 290, to detect and process properly the information of said second message.
			Page 478 lines 1-5.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
			Page 475 lines 1-2.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)
actuating one of a video output device,	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...

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an audio output device,	Column 18 lines 19-22.	These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.	Page 410 lines 10-11.
and a print output device, as appropriate, to output said selected output;	Column 20 lines 36-37.	... and instruct control means, 226, to activate printer, 221.	Page 474 lines 3-7.
decrypting at least a portion of said selected output; and	Column 20 lines 41-42.	... to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.
controlling a selective transmission device to communicate said selected output to said output device.	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.	Page 473 lines 3-13.
		... selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission....	Page 477 lines 12-17.
		... causes ... said decoder, 290, to detect and process properly the information of said second message.	Page 477 lines 23-29.
		(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example	Page 478 lines 1-5.

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			#4.)	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
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391. A method of controlling	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
a plurality of receiver stations each of which includes a mass medium program receiver,	Column 8 lines 58-59.	Control signals can be passed to the apparatus by means of the programming transmissions ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
a signal detector,	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...

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at least one of a computer and processor,	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 472 lines 4-12. Page 37 line 26 to page 38 line 8.	... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
each said plurality of receiver stations adapted to detect at least one control signal	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...
and to input a viewer reaction to a specific offer communicated in a mass medium program, said method	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget	Page 471 lines 6-25.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of

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a datum at a transmitter station, wherein said one of a code and a datum designates one of (i) one of	Column 3 lines 6-8. Column 4 lines 5-6. Column 3 lines 30-31.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. These techniques employ signals embedded in programs. The present invention consists of methods and apparatus with several forms.	Page 14 line 35 to page 15 line 2. Page 13 lines 25-26. Page 16 lines 15-27.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. The present invention employs signals embedded in programming. A central objective of the present invention is to provide flexibility in regard to installed station apparatus. At any given time, the system must have capacity for wide variation in individual station apparatus in order to provide individual subscribers the widest range of information options at the least cost in terms of installed equipment. Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates ...
a product and a service offered in said mass medium program and	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller,

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(ii) said viewer reaction	Column 20 lines 27- 31.	Five minutes later, a signal is identified in	<p>476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p> <p>Page 471 line 26 to</p>	<p>20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Five minutes later, said program originating</p>

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to said specific offer communicated in said mass medium program;			the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...	page 472 line 17.	studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...
receiving at least one control signal at said transmitter station,	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.		Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.		Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 20 lines 27-33.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred		Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and

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<p>said at least one control signal operate to cause at least one receiver station of said plurality of receiver stations to identify and communicate an electronic message;</p>	<p>by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...</p> <p>Column 20 lines 37-42.</p>	<p>transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message</p> <p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p> <p>Page 282 line 2 to page 283 line 33.</p>	<p>transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular covert control information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message</p>

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				<p>(#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p>
		to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	
transferring said one of a code and a datum and said at least one control signal to a transmitter at said transmitter station	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs</p>

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Claim Language	Reference	Language	Reference
	Column 4 lines 5-6. Column 2 lines 63-66. Column 3 lines 6-8. Column 20 line 27.	These techniques employ signals embedded in programs. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Five minutes later, ...	Page 13 lines 25-26. Page 14 lines 27-29. Page 14 line 35 to page 15 line 2. Page 471 lines 26-28.
at a specific time; and		to modulator, 87. The present invention employs signals embedded in programming. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ... Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message ...	
transmitting said one of a code and a datum and said at least one control signal from said transmitter station.	Column 12 lines 45-47. Column 4 lines 5-6. Column 2 lines 63-66.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ... These techniques employ signals embedded in programs. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ... The present invention employs signals embedded in programming. (The term "signal unit" hereinafter means one complete signal instruction or information message unit . Examples of signal units are a unique code identifying a programming unit, or a ...

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Claim Language	Reference	Language	Reference
	Column 3 lines 6-8. Column 20 lines 27-33.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, ...</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 471 line 26 to page 472 line 17.</p>
		<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause ...</p>	
392. A method of processing signals to control a mass medium programming presentation comprising the steps of:	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 8-24.
receiving a programming signal containing mass medium programming;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56.	Page 324 lines 23-31.

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	<p>video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>Column 4 lines 5-6.</p> <p>These techniques employ signals embedded in programs.</p> <p>Column 11 lines 38-39.</p> <p>By comparing identification signals on the incoming programming ...</p>	<p>59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>The present invention employs signals embedded in programming.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	<p>Page 13 lines 25-26.</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	

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is effective at a user station to control one of a processor and computer	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ...</p> <p>Automatically, control processor, 121, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)</p>
to identify and communicate an electronic message;	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network,	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message</p>

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medium programming.	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.	
<p>393. A method of claim 392, wherein said mass medium programming comprises one of video, audio, and text, and method further comprising one of the steps of:</p>	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particu</p>	

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				<p>lar-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to...</p> <p>Said instructions contain one instance, and ...</p> <p>program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p> <p>-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of</p>
	<p>Column 19 line 53-56.</p>	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>	<p>Page 439 lines 14-15.</p> <p>Page 25 lines 26-33.</p>	
	<p>Column 18 lines 48-55.</p>	<p>Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique</p>	<p>Page 420 line 21 to page 421 line 7.</p>	

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		signal that uniquely identifies the company or companies to which the news item refers and/or the industries.			Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.		Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said A T & T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said A T & T news item.)
embedding said downloadable executable code in one of a television signal and a radio signal;	Column 4 lines 5-9. Column 16 lines 25-32.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ... One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette	Page 13 lines 25-28. Page 319 lines 23-30.		The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette

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		recorders and on how people replay such recordings.		recorders and on how people replay such recordings.
embedding a code in a signal including said mass medium programming that	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.

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	<p>Column 2 lines 63-66.</p> <p>Column 19 lines 14-15.</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.</p>	<p>Page 14 lines 27-29.</p> <p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>(The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said</p>

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enables said one of a processor and computer to	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...		<p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and</p>

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Reference	Reference	Reference	Language	
one of receive information and output information to supplement said mass medium programming in accordance with said downloadable executable code;	Column 20 lines 59-67.	<p>determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and ...</p> <p>One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ...</p> <p>generate-recipe-and-shopping-list instructions</p> <p>...</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 476 line 34 to page 477 line 3,</p> <p>Page 473 lines 3-13.</p>	Language

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Claim Language	Reference	Language	Reference
		<p>The program originating studio ... transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." ...</p> <p>At the station of Fig. 7 and 7F ... , apparatus is caused to receive ... said program ... at a tuner, 215, and ... monitor, 202M; ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...</p> <p>Automatically, said controller, 39, of decoder, 145, transfers said message to the controller, 39, of decoder, 203.</p> <p>(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)</p> <p>... shopping list at particular shopping-list memory; and outputs output information of said specific recipe and list to printer, 221.</p>	<p>Page 469 line 35 to page 470 line 17</p> <p>Page 473 lines 14-15.</p> <p>Page 473 lines 26-28.</p> <p>Page 478 lines 1-5.</p> <p>Page 474 lines 33-35.</p>
		<p>In this case, decoder, 203, would identify the signals conveying the recipe</p> <p>and transfer them via processor, 204, to signal processor, 200,</p> <p>which would decrypt them, itself,</p> <p>and transfer them, via means which in this case it would have, to printer, 221).</p>	
communicating a program unit identification code to said storage device and	Column 11 lines 57-64.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language Reference	Support to instant specification. Language
storing said program unit identification code in said storage which stores said mass medium programming;	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to said storage device and storing in said storage device information to be processed at a user station	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that

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	<p>Column 11 lines 38-39.</p>	<p>By comparing identification signals on the incoming programming ...</p>	<p>Page 327 line 35 to page 328 line 13.</p>	<p>said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p>
			<p>Page 84 lines 26-28.</p>	
			<p>Page 28 lines 26-27.</p>	

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to evidence	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	<p>Page 49 lines 26-27.</p> <p>Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data. <p>... monitor information that identifies what programming is available, ...</p> <p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.</p>
one of an availability, use, and usage of one of video, audio, and text associated with said mass medium programming;	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	<p>Page 49 line 26 to page 50 line 20.</p> <p>Page 28 lines 26-27.</p> <p>Page 411 lines 10-11.</p> <p>Page 88 lines 19-22.</p>	

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	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
		Page 414 lines 13-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
		Page 15 lines 16-22.	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
	The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
		Page 38 lines 11-14.	Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.
		Page 411 lines 10-15.	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor

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		information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
		Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
	for recording and subsequent transmission to a remote data collection site.	<p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p>
		<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and</p>

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		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p> <p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site</p>	<p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p> <p>Page 397 lines 17-20.</p> <p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3)."</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>

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		can determine for billing purposes that the recipe was, first, ordered and, second, delivered.		
storing in said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,.... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
			Page 445 lines 24-27.	
			Page 446 lines 18-23.	
an instruct signal which is effective at said user station to select said mass medium	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by

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programming.		<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p>	<p>decoder, 203, transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
394. The method of claim 392, said method further comprising the steps of selecting one of: a datum that identifies a	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.

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unit of computer software in said programming signal;	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 3 lines 6-8. Column 4 lines 26-28.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Signals may also be transmitted on frequencies outside the ranges of television and radio.	Page 14 line 35 to page 15 line 2. Page 14 lines 15-17. Page 463 lines 10-29.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming.... (To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given

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	<p>Column 17 lines 39- 44.</p>	<p>Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.</p>	<p>Page 15 lines 16-23.</p>	<p>programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].)</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p>

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a datum that is part of a decryption code;	<p>Column 3 lines 3-5.</p> <p>Column 13 lines 31-32.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.</p> <p>The signal or signals may transmit a code or codes necessary for the decryption of the transmission.</p>	<p>Page 14 lines 32-35.</p> <p>Page 292 lines 7-11.</p> <p>Page 54 lines 2-6.</p> <p>Page 294 lines 28-35.</p> <p>Page 295 line 27 to page 296 line 2.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.</p> <p>Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.</p> <p>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and</p>

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a comparison datum that designates a communication schedule; and	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.		selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 14 line 35 to page 15 line 2. Page 327 line 35 to page 328 line 13.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27. Page 49 lines 26-27.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
embedding a selected	Column 4 lines 5-6.	These techniques employ signals	Page 13 lines 25-26.	The present invention employs signals

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one of said programming signal.	Column 9 lines 31-33.	embedded in programs. A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	embedded in programming. ... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency.
			Page 14 line 35 to page 15 line 2.	
			Page 36 lines 2-3.	
			Page 36 lines 19-20.	

397. The method of claim 392, further comprising the steps of: selected a second instruction, said second instruction being one of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ...
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission

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a switch control instruction;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	consists of a series or stream of sequentially transmitted SPAM messages. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
a timing control instruction;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has

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a locating control signal;				<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
a locating control signal;			Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
			Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
			Page 289 line 22 to page 290 line 10.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ... Receiving any given instance of please-fully-enable-

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			WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...
		for example, where to look for the signals	In a predetermined fashion, executing said instructions causes controller, 20,causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....
			Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,...
			At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...
		and when	In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....
			Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ...

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		and how,	<p>Page 290 lines 11-12, lines 21-26.</p> <p>Page 291 lines 21-28.</p> <p>Page 295 line 30 to page 296 line 1.</p> <p>299 lines 13-18.</p>	<p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p> <p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and</p>

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	Column 14 lines 46-54.	<p>The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,</p> <p>in this case, is not located in the channel transmission.</p> <p>They may be preprogrammed into the signal processor (for example,</p> <p>in programable random access memory controller, 20, in Fig. 1)</p> <p>or they may be transmitted in a channel other than the channel being transferred from box, 114.</p>	<p>Page 299 lines 13-25.</p> <p>Page 298 line 34 to page 299 line 1.</p> <p>Page 299 lines 13-17.</p> <p>Page 298 line 33 to page 299 line 1.</p> <p>Page 293 line 20.</p> <p>Page 291 lines 10-20.</p>	<p>outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>... such as, for example, the RAM of controller, 20; ...</p> <p>... said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ...</p>

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an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.		Page 289 lines 25-27. Page 290 lines 28-29. Page 294 lines 28-35.	enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).") said "Wall Street Week" program when transmission of said program on cable channel 13 commences. particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ... Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
		Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 59 lines 29-31. Page 290 lines 26-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...
			Page 291 lines 21-24.	In the fashions described above, so

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		<p>An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.</p>	<p>transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>The next day, February 28, 1988 at 2:32 AM, receiving particular time information from said clock, 18, causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p>
<p>an instruct-to-transfer signal that designates one of a unit of broadcast programming and a unit of cablecast programming;</p>	<p>Column 11 lines 38-39.</p>	<p>By comparing identification signals on the incoming programming ...</p>	<p>Page 402 lines 21-26.</p> <p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p>

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		<p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
		<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>
an instruct-to-delay signal that designates said one of a unit of broadcast programming and a unit of cablecast programming;	Column 11 lines 38-39.	<p>By comparing identification signals on the incoming programming ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	
<p>one of an instruct-to-decrypt and an instruct-to-interrupt signal that designates a unit of programming and a way to one of decrypt and interrupt;</p>	<p>Column 13 lines 24-25.</p>	<p>The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...</p>	<p>Page 298 lines 10-21.</p>	<p>Receiving the</p> <p>"1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p>	
<p>one of an instruct-to-enable and an instruct-to-disable signal that designates an apparatus;</p>	<p>Column 20 lines 31-37.</p>	<p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.</p>	<p>Page 471 line 26 to page 472 line 17.</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p>	

Claim Language	Reference	Language	Reference	Support to instant specification. Language
			<p>476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p>	<p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p>

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		Column 20 lines 45-46.	... and all necessary equipment was enabled.	Page 473 line 29 to page 474 line 1.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
an instruct-to-record signal that designates one of a broadcast program and a cablecast program;		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter

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an instruction signal that controls a multimedia presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>information and/or monitor information.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
			Page 26 lines 4-11.	
			Page 451 line 3.	
an instruction signal that governs one of a	Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to	Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program

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broadcast receiver station environment and a cablecast receiver station environment;	Column 17 line 54.	<p>signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.</p> <p>Governing the Home or Office Environment</p>	<p>See generally page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)</p>	<p>channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.</p> <p>Automating U. R. Stations ... Regulating Station Environment</p>
an instruct-to-power-on signal that designates a receiver;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p>

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	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 49 lines 26-27. Page 267 lines 20-28 from example #5.	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
			Page 435 lines 16-25.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>
			Page 436 line 9 to page 437 line 3.	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to...</p>

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					<p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>
		Page 439 lines 14-15.			
		... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...		Page 445 line 24 to page 446 line 1.	
		Column 19 lines 27-28.			
an instruct-to-tune signal that designates one of a receiver and a frequency;		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming</p>

Claim Language	Reference	Language	Reference	Support to instant specification. Language
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p>	<p>schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>

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			<p>Page 436 line 9 to page 437 line 3.</p>	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13,...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor,</p>
	<p>Column 19 lines 28-29.</p>	<p>...and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 439 lines 14-15.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	

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		<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 25 line 33 to page 26 line 2..</p>	<p>fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming</p>
Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	

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	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
<p>an instruct-to-compare signal that designates one of a news transmission and a computer input;</p>	<p>Column 18 lines 48-55.</p>	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p> <p>Page 420 line 21 to page 421 line 7.</p>
	<p>Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.</p>	<p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p>

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an identifier signal that causes a computer to instruct a plurality of tuners each to tune to a broadcast or cablecast transmission;					Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer,		Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ...

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		205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...		the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatusto cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...to cause selected apparatus of said station--cable converter box, 201, ... to
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	

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an instruct-to-coordinate signal that designates two units of multimedia information and one of: (1) an output time and (2) an output place;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 18 lines 24-27.</p>	<p>receive the transmission of cable channel 13;</p> <p>...</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Fig. 7C is a block diagram of signal</p>

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		delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	page 450 line 27 to page 451 line 11.	<p>processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
an instruct-to-generate signal that designates output datum;	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38,

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		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
an instruct-to-transmit signal that designates a computer output;	Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said</p>

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		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
an instruct-to-overlay signal that designates a television image;	Column 19 lines 60 to page 20 line 2.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means</p>

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			<p>of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
		Page 26 lines 4-11.	
		Page 451 line 3.	
an instruct-that-if signal that designates a function to perform if a predetermined condition exists;	Column 20 lines 27-36.	<p>Five minutes later,</p> <p>a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.</p> <p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory and to cause an instance of ...</p>

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		instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...		<p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>	
an instruct-to-enable-and-deliver signal that designates information that supplements a television program;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>	
			Page 37 line 26 to page 38 line 8.	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,</p>	

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				and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus

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a code signal that designates a datum to one of remove and embed; and	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 18-24.	... Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
a signal addressed to a receiver station apparatus; and	Column 18 lines 1-7.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	Page 400 lines 3-4. Page 35 lines 11-15. Page 35 lines 24-27. Page 35 lines 28-31. Page 400 lines 6-18. See Fig. 3A regarding the composition of controller 39.	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which... ... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39. ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39. Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to ... to input the information of the information segment of said message to the CPU of microcomputer, 205; ... and to cause said

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				Page 37 line 28 to page 38 line 8.	<p>CPU to execute the information so inputted as a machine language job.</p> <p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...</p>
embedding said selected second instruction in said programming signal.	Column 4 lines 5-6.	These techniques employ signals embedded in programs.		Page 13 lines 25-26.	The present invention employs signals embedded in programming.
396. A method of communicating program material	Column 10 lines 15-23.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.		Page 324 lines 8-24.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming ...
to at least one	Column 17 lines 47-53.	FIG 6 illustrates one possible		Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an

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receiver station each includes one of	Column 3 lines 48-51.	configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 396 lines 8-10.	ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission system of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
a broadcast program receiver and	Column 18 lines 13-14.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples. It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
a cablecast program receiver,	Column 19 lines 24-25.	The person turns on television, 202, and tunes to the proper channel. ... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 407 lines 12-15. Page 295 lines 6-8.	Said subscriber switches power on to TV set, 202, and manually selects the proper channel, which is, for example, channel 13, at the television tuner, 215, of said set, 202, ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
an output device,	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 439 lines 9-15. Page 445 line 24 to page 446 line 1.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;... ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes

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a control signal detector,	Column 18 lines 14-17.	TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	Page 446 lines 17-21. Page 408 lines 18-29.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
a processor operably	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 18 lines 22-24.	Monitor or processor, 204, also identifies	decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	Page 408 lines 31-34.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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connected to			signals addressed to tuner, 213, which it transfers accordingly.	Page 95 lines 18-24.	39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209. Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ... So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform.
said output device, said at least one receiver station adapted to	Column 19 lines 63-64.		This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
detect and respond to at least one	Column 18 lines 14-19.		TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204. Monitor or processor, 204, determines that certain signals are addressed to switch, 212, and transfers these signals to switch, 212.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of ... an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, ... Receiving said message causes said controller,

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instruct signal, said method of communicating comprising the steps of:	Column 19 lines 60-65.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, ...	Page 408 lines 31-34. Page 25 line 33 to page 26 line 2. Page 37 line 26 to page 38 line 8.
	Column 18 lines 22-25.	Monitor or processor, 204, also identifies signals addressed to tuner, 213, which it transfers accordingly. These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 26 line 4. Page 408 lines 31-34.
			Page 410 lines 10-11.

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	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	frequency, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
receiving a program to be transmitted at a transmitter station and delivering said program to a transmitter;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 18 lines 11-13.	A person decides to watch a program on television that is stereo simulcast on a local radio station, too.	Page 407 lines 9-11.	At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, ...
	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence

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		and tuner, 215, to tune appropriately to "Wall Street Week."		transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Page 446 lines 17-21.
receiving and storing said at least one instruct signal at said transmitter station, said at least one instruct signal at said receiver station operate to identify and communicate an electronic message;	Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item, and an end of file signal. The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation	Page 13 lines 25-32.	

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	Column 11 lines 57-64.	during transmissions of individual units of programming, and that they can be monitored. Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	They can be conveniently monitored. Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
transferring said at least one instruct signal to a transmitter; and	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Column 4 lines 5-6.	These techniques employ signals	Page 13 lines 25-26.	The present invention employs signals

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	Column 18 lines 14-17.	embedded in programs. TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39,	embedded in programming. Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is
	Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	In television audio, they are likely to lie between eight and fifteen kilohertz.	
	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...	
	Column 4 lines 5-6. Column 18 lines 14-17.	These techniques employ signals embedded in programs. TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 13 lines 25-26. Page 408 lines 18-29.	The present invention employs signals embedded in programming. Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is	

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	Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal. Said message is detected at said decoder, 203, and inputted to said controller, 39, In television audio, they are likely to lie between eight and fifteen kilohertz.
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397. The method of claim 396, wherein a controller controls a switch to communicate to a transmitter one of a selected mass medium program and an instruct signal, further comprising one of the steps of: detecting a signal which is effective at the transmitter station to	Column 19 lines 43-44. Column 11 lines 54-57. Column 11 lines 38-46.	... instruction signals embedded in the "Wall Street Week" programming transmission.... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 21 lines 23-24. Page 328 line 31 to page 329 line 1. Page 327 line 35 to page 328 line 13.	... instruction signals embedded in the "Wall Street Week" programming transmission. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what
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			channel or channels the station of Fig. 6 should transmit the programming of each received program unit. SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
		Page 84 lines 26-28. Page 28 lines 26-27. Page 49 lines 26-27. Page 328 lines 14-16.	
instruct transmission;	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
inputting to said	Column 11 lines 32-39.	By means of the signals, with channel	Computer, 73, monitors incoming

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				field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
controlling said switch to communicate one of said program and	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
said at least one instruct signal	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
according to a transmission schedule;	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has

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		programming.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
controlling said switch to communicate said program from a specific one of a	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to</p>

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plurality of program input receivers; and	Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
controlling said switch to communicate one of said program and said at least one instruct signal to a selected one of	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs

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a plurality of transmitters.	<p>Column 19 lines 43-44.</p> <p>Column 10 lines 43-47.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>	<p>Page 21 lines 23-24.</p> <p>Page 325 lines 1-4.</p>	<p>to modulator, 87.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.</p>
<p>398. A method for receiving, assembling, and storing at a subscriber station,</p> <p>said subscriber station having a receiver section,</p> <p>a processor, a storage device and</p>	<p>Column 18 lines 43-45.</p> <p>Column 18 lines 48-51.</p> <p>Column 18 lines 56-58.</p>	<p>Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.</p> <p>Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>... signal processor, 200, to hold examples of the sought for unique signals in its buffer/comparator, 8, and compare them with all incoming signals.</p>	<p>Page 419 line 34 to Page 420 line 2.</p> <p>Page 420 lines 21-29.</p> <p>Page 420 lines 6-20.</p>	<p>Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.</p> <p>Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions.</p> <p>The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by</p>

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a controller, said method comprising the steps of:	Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks ...	Page 422 lines 33 to Page 423 line 4. Page 420 lines 3-4.	particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T". ...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information.... The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks ...
receiving a plurality of discrete signals at said subscriber station and inputting at least a portion of said plurality of discrete signals to said receiver section;	Column 18 lines 58-59. Column 3 lines 3-8.	Signal processor, 200, scans sequentially all channels. The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 422 lines 23-25. Page 14 line 32 to page 15 line 2.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5. The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
processing said plurality of discrete signals to extract at least one message based on the step of receiving;	Column 3 lines 3-8. Column 7 lines 36-37.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Buffer/comparator, 8, organizes the data	Page 14 line 32 to page 15 line 2. Page 30 lines 7-9.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Buffer/comparator, 8, receives said signals

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		stream that it receives according to a predetermined fashion ...	Page 36 line 32 to page 37 line 3.	from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion. Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs
Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.		Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.

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			Page 156 line 33. Page 157 lines 5-7. Page 14 lines 22-25.	Fig. 3A shows one such preferred controller, 39. Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
storing said plurality of discrete signals in a storage device;	Column 7 lines 36-37.	Buffer/comparator, 8, organizes the data stream that it receives according to a predetermined fashion ...	Page 30 lines 7-9. Page 36 line 32 to page 37 line 3.	Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion. Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs
assembling said plurality of discrete signals into a signal comprising said at least one message; and	Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information,

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controlling said subscriber station in accordance with said signal of said discrete signals based on the step of assembling.	Column 18 lines 58-67.	Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	Page 422 line 23 to page 423 line 13.	<p>by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p>
				Page 156 line 33.
				Page 157 lines 5-7.
				Page 14 lines 22-25.
controlling said subscriber station in accordance with said signal of said discrete signals based on the step of assembling.	Column 18 lines 58-67.	Signal processor, 200, scans sequentially all channels. When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.	Page 422 line 23 to page 423 line 13.	<p>At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.</p> <p>In due course, one instance of said Select-AT&T-News-Item message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said Select-AT&T-News-Item message causes said controller, 39, to transmit said message to the controller, 20, of said signal processor, 200. ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which</p>
				Page 422 line 23 to page 423 line 13.
				Page 422 line 23 to page 423 line 13.
				Page 422 line 23 to page 423 line 13.

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			<p>Page 267 lines 20-28 from example #5.</p> <p>Page 424 lines 3-9.</p> <p>Page 435 lines 16-25.</p>	<p>said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.</p> <p>Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>... causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program- Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>

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	Reference	Language	Reference	Language

			<p>Page 437 lines 1-6.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then ... to cause said unit, 256, to record said AT&T news item.)</p>	
			<p>Page 426 lines 10-18.</p>	

399. A method of controlling a receiver station which includes	Column 10 lines 24-28.	<p>FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.</p>	<p>Page 324 lines 18-21.</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>	
a mass medium program receiver,	Column 10 lines 30-39.	<p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic</p>	<p>Page 324 lines 23-31.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by</p>	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
<p>a digital detector,</p> <p>at least one of a processor and a controller capable of processing data,</p> <p>said receiver station adapted to detect at least one at least one control signal and is programmed to assemble a plurality of discrete signals, said method of controlling comprising the steps of:</p>	Column 11 lines 8-10.	<p>programming input means, 62, can receive programming transmissions.</p> <p>Signal processor, 71, also has means to record said signals and transfer them to external communications network, 97.</p>	Page 326 lines 11-15.	<p>other programming input means, 62.</p> <p>Signal processor system, 71, also has signal processor means to control signal processor system, 71, to record meter-monitor information of said message information, and to transfer recorded information to external communications network, 97.</p>
	Column 6 lines 64-67.	The digital detector, 37, through standard detection techniques well known in the art, determines whether a particular signal is present in the transmission in a predetermined fashion.	Page 35 lines 24-27.	The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station,....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification: Language
	<p>Column 3 lines 3-8.</p> <p>Column 7 lines 37-39.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	<p>Page 14 line 32 to page 15 line 2.</p> <p>Page 37 lines 22 to page 38 line 10.</p> <p>Page 156 line 33.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p>

Claim Language	Support to parent application filed November 3, 1981		Support to instant specification	
	Reference	Language	Reference	Language

receiving mass medium programming and an instruct signal which is effective at the receiver station to at least one of extract and assemble said at least one control signal and			Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.
			Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Reference	Language
Reference	Reference	Language	Reference	Language
	<p>Column 3 lines 3-8.</p> <p>Column 7 lines 37-39.</p>	<p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.</p>	<p>Page 14 line 32 to page 15 line 2.</p> <p>Page 37 lines 22 to page 38 line 10.</p>	<p>information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
delivering said mass medium programming and said instruct signal to a transmitter;		Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	<p>Page 156 line 33.</p> <p>Page 157 lines 5-7.</p> <p>Page 14 lines 22-25.</p> <p>Page 328 lines 18-22.</p>	<p>information to said apparatus.</p> <p>Fig. 3A shows one such preferred controller, 39.</p> <p>Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions.</p> <p>In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.</p> <p>Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.</p>
	receiving said at least one control signal and communicating said at least one control signal to a signal embedder;	<p>Column 11 lines 18-21.</p> <p>Column 12 lines 38-41.</p>	<p>The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.</p> <p>... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.</p>	<p>Page 326 lines 27-30.</p> <p>Page 354 lines 21-24.</p>	<p>Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.</p>
	controlling said signal embedder to embed said at least one control signal message in an information transmission in a pattern of said plurality of discrete signals, said pattern of said plurality	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

Claim Language		Support to parent application filed November 3, 1981.	Support to instant specification.
		Reference	Language
of discrete signals having at least one of varying composition, varying timing, and varying location;	Column 9 lines 47-57.	The controller, 20, is programed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	<p>Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.</p>
			<p>Page 248 line 17 to page 249 line 5.</p> <p>Page 257 line 24 to page 258 line 19.</p> <p>Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p>
		The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40,	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		to receive a particular frequency at a particular time interval.		<p>the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first</p>
			<p>Page 265 line 27 to Page 266 line 21.</p>	
		This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	<p>Page 250 lines 13-17.</p>	
			<p>Page 251 lines 8-11.</p>	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 263 lines 19-24.	command, with error correcting information, to be detected at detector, 34; said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
	Column 4 lines 36-40.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.	Page 37 lines 26-28.	
communicating said information to said transmitter; and	Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
transmitting said mass medium programming and said information transmission.	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.

APPENDIX B

**PATENTABLE SUBJECT MATTER OF
INSTANT CLAIMS OVER
APPLICANTS' PATENTED CLAIMS**

The following charts provide a claim by claim comparison of each of Applicants' instant independent claims to of Applicant's independent patented claims³² as specified in Appendix A of the Office Action. The Office Action stated in paragraphs 22-23 that claims 1-399 are rejected under the judicially created doctrine of obviousness-type double patenting over any single claim or combination of claims of every claim of Applicants' six issued patents. However, the Office Action only compared one of Applicants' patented claims to Applicants' instant independent claims³³. There was no other analysis to any other of Applicants' patented claims with those of the instant application.

Applicants provide an analysis in Appendix B to show that the instant independent claims are patentably distinct from the specified patented independent claims in Appendix A of the Office Action.

For the Examiner's convenience only, Applicants have underlined portions in the left columns of the instant independent claims to designate the clearest and most succinct portions of the claim language that Applicants believe are patentably distinct from the patented independent claims in the right columns. Applicants assert that any lack of underlining in the instant independent claims in no way indicates these portions are common to the subject matter of the patented claims.

³² Claim 3 of U.S. Pat. No. 4,704,725.

³³ Applicants instant independent claims 1, 5, 12, 17, 24, 33, 38, 51-52, 59, 60, 66, 68, 72, 74-80, 84, 88, 90-91, 100-101, 103-108, 130 & 152.

Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims

Application Claim 1	U.S. Pat. No. 4,704,725, Claim 3
<p>1. A method of distributing data units, said data units comprising an information portion and an identification portion, said identification portion identifying at least one characteristic of said data units, said method comprising the steps of:</p> <p><u>receiving a plurality of said data units on a multiple channel data stream, at least some of said data units being received sequentially; and</u> <u>performing the following steps for each of said received data units:</u> <u>(a) storing the received data units in a data buffer;</u> <u>(b) decoding the identification portion of the data units to identify the at least one characteristic of the data units;</u> <u>(c) determining whether the data units should be distributed before or after one or more other of said data units based on the identified at least one characteristic of the data units; and</u> <u>(d) transmitting the data units in an order relative to other of said data units based on said step of determining.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
Application Claim 5	U.S. Pat. No. 4,704,725, Claim 3
<p>5. A method for routing and distributing data units, each of said data units having an identification portion and an information content portion, said method using a switch with multiple data ports, a plurality of storage locations for storing and communicating each of said data units to a specific destination address and a controller for controlling said switch and said plurality of storage locations, said method comprising the steps of:</p> <p><u>receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;</u> <u>processing said data units by decoding said identification portion of each of said data units to identify priority of said information content portion of said data units;</u> <u>routing each of said data units to a data port on said switch;</u> <u>selecting a storage location to store each of said data units; and</u> <u>communicating each of said data units to said selected storage location to prioritize transmission of each of said data units.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims

Application Claim	U.S. Pat. No. 4,704,725, Claim 3
<p>12. A method for routing and distributing data units, each of said data units having an identification portion and an information content portion, said method using a switch with multiple data ports, a plurality of storage locations for storing and communicating said data units and a controller for controlling said switch and said storage location, said method comprising the steps of:</p> <p><u>receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by a switch;</u> <u>processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;</u> <u>comparing said identification portion of said data units to predetermined timing data to determine a transmission time based on said identification portion of said data units; and</u> <u>transmitting said data units based on said comparing step.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 17	U.S. Pat. No. 4,704,725, Claim 3
<p>17. A method for routing and distributing data units, each of said data units having an identification portion and an information content portion, said method using a switch with multiple data ports, a plurality of storage locations for storing and communicating data units and a controller for controlling said switch and said plurality of storage locations, said method comprising the steps of:</p> <p><u>receiving said data units in an information stream, said stream having said data units separated in the time domain so that said data units are sequentially received by said switch;</u> <u>processing said data units by decoding said identification portion of each of said data units to identify said information content portion of said data units;</u> <u>comparing said decoded identification portion of each of said data units to predetermined priority data to determine a transmission priority;</u> <u>communicating an instruct-to-delay signal to cause a delay in communication of said data units.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims

Application Claim 24	U.S. Pat. No. 4,704,725, Claim 3
<p>24. A method for routing and distributing data units, said data units having a first identification portion and a second multimedia information portion using a switch with multiple data ports, a data buffer and a controller for controlling said switch comprising the steps of:</p> <p><u>receiving said data units from a multiple channel data stream, said multiple channel data stream having said data units separated in the time domain so that said data units are sequentially received on a data port on said switch;</u> <u>processing said data units by decoding said first portion of said data units to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said data units;</u> <u>assigning a transmission priority to said data units based on said type of data in said second multimedia portion of said data units determined by said step of processing said data units by placing said data units into said data buffer and;</u> <u>transmitting said data units based on said assigned priority determined by the type of data in said second multimedia information portion of said data units to a data port on said switch.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 33	U.S. Pat. No. 4,704,725, Claim 3
<p>33. A method for routing and distributing multimedia data, said multimedia data having a first identification portion and a second multimedia information portion using a network of switches each with multiple ports and a controller for controlling said network of switches comprising the steps of:</p> <p><u>receiving said multimedia data at an input on a first switch, said multimedia data having multimedia signal units separated in the time domain so that said multimedia data is sequentially received;</u> <u>processing said multimedia data units by decoding a first encoded portion of said multimedia data units to determine a destination address for said multimedia data units;</u> <u>routing said multimedia data units to an output port on said network of switches based on said processing step;</u> <u>storing said multimedia data units in a temporary storage location based on said routing step that was determined in said processing step;</u> <u>transmitting said multimedia data units from said</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity</p>

Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims

<u>temporary storage location at an asynchronous time, said asynchronous time determined by decoding said first encoded portion of said multimedia data units to determine a type of data in said second multimedia information portion to a second switch.</u>	of said output devices being different, with each output signal specific to a specific user.
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Application Claim 38	U.S. Pat. No. 4,704,725, Claim 3
<p>38. A method for coding, decoding, routing and distributing multimedia data, said multimedia data having a first identification portion and a second multimedia information portion using a multiple port switch and a controller comprising the steps of:</p> <p><u>receiving multimedia data units from a multiple channel data stream, said multiple channel data stream having multimedia data units separated in the time domain so that said multimedia data units have an asynchronous arrival at a data port on said switch;</u> <u>processing said multimedia data units by decoding said first portion to identify a type of data in said second multimedia information portion and to identify a specific destination address that indicates routing information for said multimedia data units;</u> <u>storing said multimedia signal in a temporary storage location based on said routing information determined in said processing step;</u> <u>processing said multimedia data units by decoding said second multimedia information portion of said multimedia data units and re-formatting said multimedia data units from said second multimedia information portion of said multimedia data units;</u> <u>re-timing said re-formatted multimedia data units into a synchronous data stream.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 51	U.S. Pat. No. 4,704,725, Claim 3
<p>51. A method of processing signals at a receiver station, said receiver station having a computer capable of responding to commands and controlling communication of signals, said method comprising the steps of:</p> <p><u>inputting and storing a command, said command designating at least one of:</u> <u>(1) a signal to be stored, said signal including at least one of television, radio, video, audio, data, and computer programming;</u> <u>(2) a time to communicate a signal; and</u> <u>(3) a place to communicate a signal to or from, said</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said</p>

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<p><u>place including at least one of a transmitter, video monitor, a speaker, a computer, a processor, a controller, a storage device, and a subscriber station;</u> <u>receiving said signal;</u> <u>storing said signal at a first storage location, said first storage location being capable of being commanded to store and output said signal; and</u> <u>outputting said signal from said first storage location to a second storage location in accordance with said command;</u> <u>storing said signal at said second storage location, said second storage location being capable of being commanded to store and output said signal; and</u> <u>communicating said signal from said second storage location.</u></p>	<p>selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 52	U.S. Pat. No. 4,704,725, Claim 3
<p>52. A method of processing signals at a receiver station, said receiver station having a receiver for receiving a transmission, and a plurality of storage locations, each storage location capable of being commanded to store and output programming, said receiver station capable of selecting between each of said plurality of storage locations and communicating said programming between each of said plurality of storage locations, said method comprising the steps of:</p> <p><u>receiving an information transmission including programming comprising at least one of television, radio, video, audio, data, and computer programming;</u> <u>demodulating said information transmission;</u> <u>detecting said programming embedded in said information transmission;</u> <u>storing said programming at a first storage location;</u> <u>transferring said programming stored at said first location to a second location in response to a command;</u> <u>storing said programming at said second storage location to enable said receiver station to transfer said programming from said second storage location to a computer at a specific time or in response to said command.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 59	U.S. Pat. No. 4,704,725, Claim 3
<p>59. A method of communicating signals in a network, said network including an origination station, at least one intermediate station that receives and transmits said signals, and at least one subscriber station, said method comprising the steps of:</p> <p><u>storing television programming at a first storage</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said</p>

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<p><u>location, said television programming, including video and audio;</u> <u>transferring, under computer control, said television programming from said first storage location to a second storage location at a selected one of said at least one intermediate station;</u> <u>storing said television programming at said second storage location to enable said selected intermediate station to communicate said television programming from said second storage location to a selected one of said at least one subscriber station;</u> <u>communicating a programming identification signal from said origination station to said selected intermediate station, said programming identification signal identifying said television programming stored at said second storage location;</u> <u>detecting, at said selected intermediate station, said programming identification signal communicated from said origination station; and</u> <u>communicating said television programming from said second storage location to said selected subscriber station based on said programming identification signal.</u></p>	<p>computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 60	U.S. Pat. No. 4,704,725, Claim 3
<p>60. A method of communicating signals in a network, said network including an origination station, a plurality of intermediate stations that receives and retransmits said signals, and a plurality of subscriber stations that receive said signals, said method comprising the steps of:</p> <p><u>storing television programming at a first storage location at a first intermediate station, said first intermediate station being one of said plurality of intermediate stations in said network;</u> <u>transferring, under computer control, said television programming from said first storage location to a second storage location at a second intermediate station, said second intermediate station being one of said plurality of intermediate stations in said network;</u> <u>storing said television programming at said second storage location to enable communication of said television programming from said second intermediate station to at least one of said plurality of subscriber stations.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 66	U.S. Pat. No. 4,704,725, Claim 3
<p>66. A method of processing signals at a receiver station comprising the steps of:</p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least</p>

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<p><u>receiving one of a broadcast and cablecast transmission;</u> <u>demodulating said one of a broadcast and cablecast transmission, said one of a broadcast and cablecast transmission including an embedded signal;</u> <u>detecting said embedded signal on said one of a broadcast and cablecast transmission;</u> <u>selecting information stored at a first storage location in response to said embedded signal;</u> <u>transferring said information from said first storage location to a second storage location based on said embedded signal, thereby providing a computer access to said information; said first storage location and said second storage location being capable of being commanded to store and output programming.</u></p>	<p>some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 68	U.S. Pat. No. 4,704,725, Claim 3
<p>68. A method of controlling communication of television programming at a transmission station, where said television programming includes video and audio, said transmission station having at least one storage device for storing said television programming, transferring means for transferring said television programming within said transmission station from a first storage location to a second storage location, and a computer for controlling said transferring means and identifying said television programming on the basis of identification information associated with said television programming, said method comprising the steps of: <u>inputting schedule information that specifies said television programming, and at least one of:</u> <u>(a) a time to communicate said television programming; and</u> <u>(b) a place to communicate said television programming to;</u> <u>transferring said television programming from said first storage location to said second storage location thereby enabling said transmission station to communicate said television programming from said second storage location to a receiver station in accordance with said schedule information.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 72	U.S. Pat. No. 4,704,725, Claim 3
<p>72. <u>A transmission station apparatus for communicating programming, said apparatus</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer</p>

<p><u>comprising:</u> <u>a receiver for receiving an information transmission,</u> <u>said information transmission including said</u> <u>programming;</u> <u>a first storage device connected to said receiver for</u> <u>storing said programming;</u> <u>a second storage device connected to said first storage</u> <u>device, said second storage device storing said</u> <u>programming output by said first storage device;</u> <u>a switch connected to said first storage device and said</u> <u>second storage device;</u> <u>a computer connected to said first storage device, said</u> <u>second storage device, and said switch for controlling</u> <u>said first storage device to output said programming to</u> <u>said second storage device and controlling said second</u> <u>storage device to output said programming to said</u> <u>switch, said computer being capable of:</u> <u>(1) selecting a storage device to store said</u> <u>programming;</u> <u>(2) commanding said switch to transfer said</u> <u>programming to said selected storage device; and</u> <u>(3) commanding said selected storage device to</u> <u>store said programming; and</u> <u>a cable network connected to said switch for receiving</u> <u>said programming output from said second storage</u> <u>device and communicating said programming to a</u> <u>plurality of subscriber stations.</u></p>	<p>adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of: transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 74	U.S. Pat. No. 4,704,725, Claim 3
<p>74. <u>An apparatus for controlling communication of television programming at a transmission station comprising:</u> <u>a first storage device for storing said television programming;</u> <u>a second storage device for storing said television programming;</u> <u>a configurable switch connecting said first storage device to said second storage device;</u> <u>a modulator connected to said second storage device for communicating said television programming to subscribers; and</u> <u>a computer connected to said first storage device, said second storage device, and said configurable switch, said computer having a memory and being programmed to perform the following steps:</u> <u>(a) receiving and storing a programming schedule, said programming schedule designating said television programming, a time to communicate said television programming, and one of a communication channel and frequency for communicating said television programming;</u> <u>(b) controlling said first storage device to receive and store said television programming;</u> <u>(c) controlling said configurable switch and said first storage device to transfer said television programming from said first storage device to said</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of: transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

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<p><u>second storage device;</u> <u>(d) controlling said second storage device to store said television programming; and</u> <u>(e) controlling said second storage device and said modulator to communicate said television programming from said second storage device to said subscribers according to said programming schedule.</u></p>	
<p align="center">Application Claim 75</p> <p>75. A method of communicating subscriber station information from a subscriber station to at least one remote collection station, said method comprising the steps of:</p> <p><u>inputting an instruct signal which is effective at said subscriber station to output a signal from a first storage location and store said signal at a second storage location;</u> <u>detecting the presence of an instruction associated with said instruct signal, said instruction being effective at said subscriber station to generate subscriber station specific data and to select and assemble said subscriber station specific data into a record;</u> <u>processing at said subscriber station inputted data and performing, in response to said instruction, one of:</u> <u>(a) generating subscriber station specific data and communicating said subscriber station specific data to a transmitter; and</u> <u>(b) selecting and assembling into said record said subscriber station specific data and communicating said record to a transmitter; and</u> <u>transmitting said record to said at least one remote collection station.</u></p>	<p align="center">U.S. Pat. No. 4,704,725, Claim 3</p> <p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
<p align="center">Application Claim 76</p> <p>76. A method of gathering information on the use of a signal at a receiver station, said receiver station having a processor, and a controlled device, said receiver station transferring said information to a remote station, said method comprising the steps of:</p> <p><u>identifying at least one of a device and a control signal which operates to output a signal from a first storage location and store said signal at a second storage location;</u> <u>monitoring said at least one of a device and a control signal;</u></p>	<p align="center">U.S. Pat. No. 4,704,725, Claim 3</p> <p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-</p>

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<u>storing a record of the use of said at least one of a device and a control signal; and</u> <u>communicating said information from said record from said receiver station to said remote station.</u>	to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.
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Application Claim 77	U.S. Pat. No. 4,704,725, Claim 3
<p>77. A method of controlling a network comprising at least one remote intermediate transmitter station and at least one receiver station, with said at least one remote intermediate transmitter station including a transmitter for transmitting data, a plurality of selective transfer devices each operatively connected to said transmitter, a data receiver for receiving data from at least one origination transmitter station, a control signal detector, and a computer capable of controlling said plurality of selective transfer devices, and with said at least one remote intermediate transmitter station adapted to detect a control signal, to control the communication of said data in response to said control signal, and to deliver said data to said transmitter, said method comprising the steps of:</p> <p><u>receiving at said at least one origination transmitter station said data to be transmitted by said at least one remote intermediate transmitter station and delivering said data to at least one origination transmitter, said data comprising an instruct signal which is effective in said network to output a signal from a first storage location and store said signal at a second storage location;</u> <u>receiving said control signal which operates at said at least one remote intermediate transmitter station to control the communication of said data; and</u> <u>transmitting said control signal to said at least one origination transmitter before a specific time.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 78	U.S. Pat. No. 4,704,725, Claim 3
<p>78. A method of controlling a plurality of receiver stations each of which includes a data receiver, a signal detector, at least one computer, and with each of said plurality of receiver stations adapted to detect the presence of a control signal and to input a viewer reaction to an offer communicated in a mass medium program, said method of controlling comprising the steps of:</p> <p><u>receiving a first code at a transmitter station, wherein</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said</p>

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<p><u>said first code designates one of a product or service offered in a mass medium program and a viewer reaction to an offer communicated in a mass medium program; receiving a second code at said transmitter station, wherein said second code operates at said plurality of receiver stations to output a signal from a first storage location and store said signal at a second storage location;</u> <u>transferring said first code and said second code to a transmitter at said transmitter station; and</u> <u>transmitting said first code and said second code.</u></p>	<p>computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 79	U.S. Pat. No. 4,704,725, Claim 3
<p>79. A method of communicating data and update material to at least one of a plurality of receiver stations, each of which includes a data receiver, a data storage device, a control signal detector, a computer capable of processing data, with each of said plurality of receiver station adapted to detect and respond to an instruct signal and to store data for subsequent processing, said method comprising the steps of:</p> <p><u>receiving data to be transmitted and delivering said data to a transmitter;</u> <u>receiving an instruct signal which operates at at least one of said plurality of receiver stations to output a signal from a first storage location and store said signal at a second storage location;</u> <u>transferring said instruct signal to said transmitter; and</u> <u>transmitting an information transmission comprising said data and said instruct signal.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 80	U.S. Pat. No. 4,704,725, Claim 3
<p>80. An interactive method for data promotion and delivery for use with an interactive mass medium program output apparatus comprising the steps of:</p> <p><u>outputting a mass medium program that promotes data,</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said</p>

said interactive mass medium program output apparatus having an input device to receive input from a subscriber;
prompting said subscriber during said mass medium program whether said subscriber wants said data promoted in said step of outputting, said interactive mass medium program output apparatus having a memory for storing code;
receiving a reply from said subscriber at said input device in response to said step of prompting, said interactive mass medium program output apparatus having a processor for processing said subscriber reply and said data;
processing said reply and selecting code designating said data, said interactive mass medium program output apparatus having a transmitter for communicating information to a remote station;
communicating said selected code to said remote station, said interactive mass medium output apparatus and said remote station comprising a network having a plurality of transmitter stations;
assembling, in said network, a signal which is effective at said interactive mass medium program output apparatus to store said data at said memory, said interactive mass medium program output apparatus having a receiver for receiving at least a portion of said signal from said remote station;
delivering at least a portion of said signal at said interactive mass medium program output apparatus; and
delivering said data on the basis of said signal.

computers at a time when the corresponding user specific information is not being transmitted to an output device,
detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and
causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

Application Claim 84	U.S. Pat. No. 4,704,725, Claim 3
<p>84. A method of controlling a receiver station, said receiver station having a processor performing a first function, said method comprising the steps of:</p> <p><u>detecting one of the presence and absence of a first control signal;</u> <u>inputting an instruct-to-react signal to said processor based on said step of detecting;</u> <u>controlling said processor to perform a second function and to output information in response to said step of inputting; and</u> <u>selecting data and generating a second control signal based on said step of controlling, said second control signal being effective to communicate said selected data to a storage device on the basis of said information.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity</p>

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	of said output devices being different, with each output signal specific to a specific user.
Application Claim 88	U.S. Pat. No. 4,704,725, Claim 3
<p>88. A method for identifying television programming in one of a broadcast and cablecast transmission station that has a storage device having (i) at least two storage locations each capable of storing a television signal, and (ii) a control device capable of controlling said storage device and identifying said television programming on the basis of identification information stored at said storage device, said method comprising the steps of:</p> <p><u>inputting said identification information that identifies said television programming;</u> <u>inputting said television programming to said storage device;</u> <u>storing said television programming at a selected one of said at least two storage locations; and</u> <u>storing said identification information with said television programming at said selected location; and</u> <u>identifying said television programming on the basis of identification information associated in storage with said television programming.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
Application Claim 90	U.S. Pat. No. 4,704,725, Claim 3
<p>90. A method for identifying television programming in a broadcast and cablecast transmission station that has storage means having a first and a second storage location, wherein said storage means is capable of holding at least two units of said television programming, and control means capable of controlling said storage means and for identifying a selected unit of television programming on the basis of identification information associated with said selected unit, said method comprising the steps of:</p> <p><u>inputting identification information that specifies a unit of said television programming;</u> <u>inputting said unit of said television programming associated with said inputted identification information;</u> <u>identifying said unit of said television programming;</u> <u>storing said unit at said first storage location; and</u> <u>storing said identification information at said second storage location, thereby to enable said station to identify said unit stored in the first storage location on the basis of identification information stored in said second storage location.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity</p>

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	of said output devices being different, with each output signal specific to a specific user.
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Application Claim 91	U.S. Pat. No. 4,704,725, Claim 3
<p>91. A method for identifying and one of broadcasting and cablecasting television programming at a television transmission station, said transmission station capable of storing and transmitting a television transmission, said television transmission comprising units of television programming and identification information identifying said units of said television programming, said method comprising the steps of:</p> <p><u>inputting schedule information that identifies one of a category and a unit of said television programming;</u> <u>inputting said television transmission;</u> <u>locating identification information in said transmission that identifies said one of a category and a unit of said television programming;</u> <u>storing said television transmission at a first storage device;</u> <u>determining that said identification information identifies said one of said category and a unit of said television programming;</u> <u>transferring information of said television programming transmission to a second storage device; and</u> <u>storing said information of said television programming at said second storage device, thereby enabling said station to broadcast and/or cablecast television programming of said one of a category and a unit of said television programming.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 100	U.S. Pat. No. 4,704,725, Claim 3
<p>100. A method of communicating subscriber station information from a subscriber station to at least one remote collection station, said method comprising the steps of:</p> <p><u>inputting an instruct signal which is effective at said subscriber station to select and control communication of a datum which identifies information contained in a program;</u> <u>detecting the presence of at least one of an instruction, code and datum, associated with said instruct signal, which is effective at the subscriber station to one of generate subscriber station specific data and to select and assemble a plurality of specific and subscriber station specific data into a record;</u> <u>processing at the subscriber station inputted data and performing, in response to said detected instruction, one</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices</p>

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<p>of:</p> <p>(a) <u>generating said subscriber station specific data and communicating said generated subscriber station specific data to a transmitter; and</u></p> <p>(b) <u>selecting and assembling into said record a specific plurality of said subscriber specific data and communicating said record and said selected specific plurality of said subscriber specific data to a transmitter; and</u></p> <p><u>transmitting one of said communicated generated subscriber station specific data and said communicated record and specific plurality of said subscriber specific data to said at least one remote collection station.</u></p>	<p>an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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Application Claim 101	U.S. Pat. No. 4,704,725, Claim 3
<p>101. A method of processing signals at a receiver station comprising the steps of:</p> <p><u>receiving information transmissions;</u></p> <p><u>detecting a plurality of signals in at least one of said information transmissions, at least one of said detected plurality of instruct signals being effective at said receiver station to instruct;</u></p> <p><u>passing each of said detected instruct signals to a computer;</u></p> <p><u>controlling said computer on the basis of each of said detected and passed instruct signals;</u></p> <p><u>selecting and controlling communication, under computer control and in response to at least a first of said detected and passed instruct signals, of a datum that identifies information contained in a program; and</u></p> <p><u>storing information evidencing the passing of at least a second of said detected and passed instruct signals.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>

Application Claim 103	U.S. Pat. No. 4,704,725, Claim 3
<p>103. A method of controlling a remote intermediate mass medium program transmitter station to communicate mass medium program material to a remote receiver station and controlling said remote receiver station to deliver an individualized mass medium program presentation, said method of controlling comprising the steps of:</p> <p><u>receiving mass medium programming to be transmitted by said remote intermediate mass medium transmitter station and delivering said mass medium programming</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output</p>

to a transmitter;
receiving at least one instruct signal at said remote intermediate mass medium transmitter station, wherein said at least one instruct signal operates at said remote receiver station to select and control communication of a datum which identifies information contained in said mass medium programming, and communicating said at least one instruct signal to said transmitter;
receiving at least one control signal at said remote intermediate mass medium transmitter station, said at least one control signal operates at said remote intermediate mass medium transmitter station to control communication of one of said mass medium programming and said at least one instruct signal; and
transmitting from said remote intermediate mass medium transmitter section an information transmission comprising said mass medium programming and said at least one instruct signal, said mass medium programming and said at least one instruct signal transmitted in accordance with said at least one control signal.

device,
 detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and
 causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

Application Claim 104

104. A method of controlling a remote transmitter station to deliver a receiver specific mass medium program presentation at a receiver station, said method of communicating comprising the steps of:

receiving a mass medium program at said remote transmitter station and delivering said mass medium program to a transmitter;
receiving at said remote transmitter station at least one instruct signal which operates to select and control communication of one of a code and datum which identifies information contained in said mass medium program;
receiving a control signal which operates at said remote transmitter station to control communication of at least one instruct signal and communicating said control signal to said remote transmitter station;
receiving said one of a code and a datum designating a specific instruct signal of said at least one instruct signal to be transmitted by said remote transmitter station, and said remote transmitter station transferring said designated specific instruct signal to a transmitter; and
transmitting from said remote transmitter station an information transmission comprising said mass medium program and said designated specific instruct signal, said designated specific instruct signal being transmitted at one of specific times and on specific channels.

U.S. Pat. No. 4,704,725, Claim 3

3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:

transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,
 detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and
 causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

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Application Claim 105	U.S. Pat. No. 4,704,725, Claim 3
<p>105. A method of controlling at least one of a plurality of receiver stations each of which includes a television receiver, a signal detector, at least one of a computer and processor, wherein each of said plurality of receiver stations is adapted to detect the presence of at least one control signal and to input a subscriber reaction to a specific offer communicated in a television program, said method comprising the steps of:</p> <p><u>receiving at least one of a code and a datum at a transmitter station, wherein said one of a code and a datum designates at least one of a product and a service offered in said television program and said subscriber reaction;</u></p> <p><u>receiving said at least one control signal at said transmitter station, said at least one control signal at said at least one of said plurality of receiver stations operates to select and control communication of information at least one of received with and to be associated with said television program;</u></p> <p><u>transferring at least one of (i) said at least one of a code and a datum and (ii) said at least one control signal to a transmitter at said transmitter station at a specific time;</u></p> <p><u>and</u></p> <p><u>transmitting (i) said at least one of a code and a datum and (ii) said at least one control signal from said transmitter station.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
Application Claim 106	U.S. Pat. No. 4,704,725, Claim 3
<p>106. A method of communicating television program material to at least one receiver station including one of a broadcast and cablecast television receiver, a television monitor, a control signal detector, a processor operatively connected to said television monitor, said processor programmed to detect and respond to at least one instruct signal in one of a broadcast and cablecast transmission, said method comprising the steps of:</p> <p><u>receiving a television program at a transmitter station and delivering said television program to a transmitter;</u></p> <p><u>receiving said at least one instruct signal at said transmitter station, said at least one instruct signal at said at least one receiver station operates to select and control communication of a datum which identifies information contained in said television program;</u></p> <p><u>transferring said at least one instruct signal from said transmitter station to a transmitter; and</u></p> <p><u>transmitting said television program and said at least one instruct signal from said transmitter station to said at least one receiver station.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output</p>

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signal specific to a specific user.	
Application Claim 107	U.S. Pat. No. 4,704,725, Claim 3
<p>107. A method of communicating programming in a communications network, said communications network including at least one origination station and an intermediate transmission station, said intermediate transmission station having a transmitter, at least one selective transfer device operatively connected to said transmitter for transferring programming, an automatic control unit operatively connected to said at least one selective transfer device, a first detector operatively connected to said automatic control unit for detecting first signals, a receiver operatively connected to said first detector, a second detector operatively connected to said transmitter for detecting second signals, and a logging unit operatively connected to said second detector, said method comprising the steps of:</p> <p><u>transmitting from said origination stations said programming, said programming including at least one signal for comparison; transmitting at least one retransmission control signal from said origination stations;</u></p> <p><u>said intermediate transmission station receiving said programming; detecting and passing to said automatic control unit said at least one retransmission control signal; and</u></p> <p><u>said automatic control unit performing the step of selectively transferring said programming to said transmitter in accordance with said at least one retransmission control signal.</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
Application Claim 108	U.S. Pat. No. 4,704,725, Claim 3
<p>108. A method of controlling a network having a remote intermediate transmitter station and at least one receiver station, with said remote intermediate transmitter station including at least one intermediate transmitter for transmitting a signal, a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter for communicating said signal, a receiver for receiving said signal from outside said network, an instruction detector, and a controller capable of controlling at least one of said plurality of selective transfer devices, and with said remote intermediate transmitter station adapted to (1) detect at least one instruction, (2) control communication of at least one signal in response to said at least one instruction, and (3) deliver said at least one signal to said at least one intermediate transmitter, said method comprising the steps of:</p> <p><u>receiving said signal outside said network, said signal having at least one first instruction which is operative in said network to output said signal from a first storage</u></p>	<p>3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output</p>

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<u>location and store said signal at a second storage location;</u> <u>receiving at least one second instruction outside said network, said at least one second instruction operative at said remote intermediate transmitter station to control communication of said signal; and</u> <u>transmitting said signal and said at least one second instruction to said network before a specific time.</u>	device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.
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Application Claim 130	U.S. Pat. No. 4,704,725, Claim 3
130. A method of controlling a network having a remote intermediate transmitter station and at least one receiver station, with said remote intermediate transmitter station including at least one intermediate transmitter for transmitting at least one signal, a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter for communicating said at least one signal, a receiver for receiving said at least one signal from outside said network, an instruction detector, and a controller capable of controlling at least one of said plurality of selective transfer devices, and with said remote intermediate transmitter station receiving said at least one signal, at least one first instruction, and at least one second instruction, said method comprising the steps of: <u>programming said remote intermediate transmitter station to control communication of and deliver said at least one signal at said at least one intermediate transmitter in response to at least one detected instruction;</u> <u>programming said remote intermediate transmitter station to detect said at least one first instruction and said at least one second instruction; and</u> <u>programming said network to detect and respond to an instruction which is operative in said network to output said at least one signal from a first storage location and store said at least one signal at a second storage location before a specific time.</u>	3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of: transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device, detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

Application Claim 152	U.S. Pat. No. 4,704,725, Claim 3
152. A method of controlling a network having a remote intermediate transmitter station and at least one receiver station, with said remote intermediate transmitter station including at least one intermediate transmitter for transmitting data, a plurality of selective transfer devices each operatively connected to said at least one intermediate transmitter for communicating said data, a receiver for receiving said data from outside	3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to

<p>said network, a control signal detector, and a controller capable of controlling at least one of said plurality of selective transfer devices, and with said remote intermediate transmitter station adapted to detect at least one control signal, to control communication of said data in response to said at least one control signal, and to deliver said data at said at least one intermediate transmitter, said method comprising the steps of: <u>receiving said data outside said network, said data including an instruct signal which is effective in said network to output said data from a first storage location and store said data at a second storage location; receiving said at least one control signal outside said network, said at least one control signal operative at said remote intermediate transmitter station to control communication of said data; and transmitting said at least one control signal to said network before a specific time.</u></p>	<p>accommodate a special user application, comprising the steps of:</p> <p>transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,</p> <p>detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and</p> <p>causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.</p>
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APPENDIX C

CORRELATION CHARTS
BETWEEN
THE PARENT 1981 SPECIFICATION
(as referenced to column and line numbers of U.S. Pat. No. 4,694,490)
AND
THE INSTANT 1987 PRIORITY SPECIFICATION

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
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Specification Correlation Chart

			<p>broadcast print, etc.</p> <p>But it requires much more.</p> <p>To unlock this potential fully requires a system with efficient capacity for satisfying the demands of subscribers who have little receiver apparatus and simple information demands as well as subscribers who have extensive apparatus and complex demands. It requires capacity for transmitting and organizing vastly more information and programming than any one-channel transmission system can possibly convey at one time. It requires capacity for controlling intermediate transmission stations that receive information and programming from many sources and for organizing the information and programming and retransmitting the information and programming so as to make the use of the information and programming at ultimate receiver stations as efficient as possible.</p>
Column 1 lines 42-44	It is the further purpose of this invention to provide means and methods to process and monitor such transmissions and presentations at individual receiver sites...	Page 3 lines 9-29.	<p>To unlock this potential also requires efficient capacity for providing reliable audit information to (1) advertisers and others who pay for the transmission and performance of programming and (2) copyright holders, pay service operators, and others such as talent who demand, instead, to be paid. This requires capacity for identifying and recording (1) what television, radio, data, and other programming and what instruction signals are transmitted at each transmission station and (2) what is received at each receiver station as well as (3) what received programming is combined or otherwise used at each receiver station and (4) how it is received, combined, and/or otherwise used.</p> <p>Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy.</p>
Column 1 lines 45-49.	...and to control, in certain ways, the use of transmitted programming and the operation of certain associated equipment. Such receiver sites may be stations or systems that intend to retransmit the programming, or they may be end users of the programming.	Page 11 lines 23-27.	<p>It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations.</p>

Specification Correlation Chart

Column 1 lines 49-53.	The present invention contemplates that certain data may be encrypted and that certain data collected from such processing and monitoring will automatically be transferred to a remote geographic location or locations.	Page 13 lines 5-9.	In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.
Column 1 lines 54-57.	In the prior art, there have been attempts to develop systems to control programming and systems to monitor programming, but the two have been treated as separate systems, and each has had limited capacity.	Page 2 lines 25-30.	To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.
Column 1 line 58 to column 2 line 27.	As regards control systems, cueing systems and equipment now exist that transmit instructions to operating equipment at receiver sites by means of tone signals that are carried, in television transmissions, in the audio portion and may be heard by the human ear. Such systems and devices are used to turn on equipment such as videotape players and recorders that have been manually loaded and to tell such equipment how long to run. Such systems operate by transmitting operating signals that precede and follow programming and are called "headers" and "trailers" respectively. The use of headers and trailers limits prior art in that headers and trailers can become separated from programming, thereby hampering automatic operations. Such prior art techniques have lacked the capacity to process the programming in various ways including to instruct receiver end equipment what specific programming to select to play or record other than that immediately at hand, how to load it on player or recorder equipment, when and how to play it or record it other than immediately, how to modify it, what equipment or channel or channels to transmit it on, when to transmit it, and how and where to file it or refile it or dispose of it. (Within television studios that are original transmitters of programming, certain systems and equipment do exist for certain automatic co-ordination of players, loaders, and other equipment; however, manual instructions still must be given, on site, for the co-ordination of such equipment which instructions are transmitted electronically on hard-wire channels that are strictly separate from the channels on which the programming is transmitted and such instructions are never broadcast.) Such prior art systems and equipment have lacked the capacity to automatically coordinate multi-channel and multi-media presentations. They have lacked the capacity to decrypt encrypted	Generally, page 4 line 17 to page 7 line 22.	<p>This prior art is limited. It only transmits data; it does not control data processing. No system is preprogrammed to simultaneously control a plurality of central processor units, operating systems, and pluralities of computer peripheral units. None has capacity to cause simultaneous generation of user specific information at a plurality of receiver stations. None has any capacity to cause subscriber station computers to process received data, let alone in ways that are not inputted by the subscribers. None has any capacity to explain automatically why any given information might be of particular interest to any subscriber or why any subscriber might wish to select information that is not selected or how any subscriber might wish to change the way selected information is processed.</p> <p>...</p> <p>This prior art, too, is limited. It has no capacity to overlay any information other than information transmitted to all receiver stations simultaneously. It has no capacity to overlay any such information except in the order in which it is received. It has no capacity to cause receiver station computers to generate any information whatsoever, let alone user specific information. It has no capacity to cause overlays to commence or cease appearing at receiver stations, let alone commence and cease appearing periodically.</p> <p>As regards the automation of intermediate transmission stations, various so-called "cueing" systems in the prior art operate in conjunction with network broadcast transmissions to automate the so-called "cut-in" at local television and radio stations of locally originated programming such as so-called "local spot" advertisements.</p> <p>...</p> <p>This prior art, too, is limited. It has no capacity to schedule</p>

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
Specification Correlation Chart			
	processing signals. They have lacked the capacity to monitor whether receiver-end equipment are following instructions properly.		<p>automatically or transmit any programming other than that loaded immediately at the play heads of the controlled video players. It has no capacity to load the video players or identify what programming is loaded on the players or verify that scheduled programs are played correctly. It has no capacity to cause the video players to record programming from any source. It has no capacity to receive programming transmissions or process received transmissions in any way. It has no capacity to operate under the control of instructions transmitted by broadcasters. It has no capacity to insert signals that convey information to or control, in any way, the automatic operation of ultimate receiver station apparatus other than television receivers.</p> <p>...</p> <p>This prior art, too, is limited. It has no capacity for interconnecting or operating a system at any time other than the time when the order to do so is entered manually at the system or remote keyboard. It has no capacity for acting on instructions transmitted by broadcasters to interconnect, actuate or tune systems peripheral to a television receiver or to actuate a television receiver or automatically change channels received by a receiver. It has no capacity for coordinating the programming content transmitted by any given peripheral system with any other programming transmitted to a television receiver. It has no capacity for controlling two separate systems such as, for example, an automatic radio and television stereo simulcast. It has no capacity for selectively connecting radio receivers to radio peripherals such as computers or printers or speakers or for connecting computers to computer peripherals (except perhaps a television set). It has no capacity for controlling the operation of decryptors or selectively inputting transmissions to decryptors or outputting transmissions from decryptors to other apparatus. It has no capacity for monitoring and maintaining records regarding what programming is selected or played on any apparatus or what apparatus is connected or how connected apparatus operate.</p>

II. COLUMN 2

Column 2 lines 28-62.	As regards monitoring systems, various systems and devices have been developed to determine what programming	Generally page 7 line 23 to page 9 line 5.	The prior art includes a variety of systems for monitoring programming and generating so-called "ratings." One system
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Specification Correlation Chart

			programming and controlling the decryption of said programming, let alone doing so on the basis of signals that are embedded in said programming that contain keys for the decryption of said programming. It has no capacity for operating on the basis of control signals transmitted to recorder/players at a plurality of subscriber stations, let alone operating on the basis of such signals to record user specific information at each subscriber station.
Column 2 lines 63-64.	(The term "signal unit" hereinafter means one complete instruction or information message unit.	Page 14 lines 26-27.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit.
Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit,...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit,
Column 2 lines 66-67.	...or a unique purchase order number identifying the proper use of a programming unit,...	Page 14 lines 27-30.	Examples of signal units are...a unique purchase order number identifying the proper use of a programming unit, or
Column 2 line 67 to column 3 line 3.	...or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 27-32.	Examples of signal units are...a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.

III. COLUMN 3

Column 3 lines 3-5.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.	Page 14 lines 32-35.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.
Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
Column 3 lines 8-12.	Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)	Page 15 lines 2-6.	Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)
Column 3 lines 13-27.	It is a further object of the present invention to process and monitor signals on numerous channels by sequentially scanning each channel in a predetermined manner which manner may be varied. It is also an object of the present invention to prevent unauthorized use of signals and programming by permitting signal encryption, the variation of word numbers, word lengths, word compositions, and/or word locations. It is also an object of this system to process different signal words in different ways. It is also an object of	Page 3 lines 21-2\9.	Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy.

Specification Correlation Chart

	the present invention to provide a record of signals that may be transferred to a geographically distant location on command or predetermined instruction. Other objects of this invention will appear from the following descriptions and the appended claims.			
Column 3 line 29.	SUMMARY OF THE INVENTION		See generally page 11 line 4 to page 14 line 30.	SUMMARY OF THE INVENTION
Column 3 lines 30-31.	The present invention consists of methods and apparatus with several forms.		Page 16 lines 15-27.	A central objective of the present invention is to provide flexibility in regard to installed station apparatus. At any given time, the system must have capacity for wide variation in individual station apparatus in order to provide individual subscribers the widest range of information options at the least cost in terms of installed equipment. Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates ...
Column 3 lines 32-37.	One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instruction and information signals embedded in programming either supplied from a remote source or sources or prerecorded.		Page 12 lines 18-24.	It is the further purpose of this invention to provide means and methods for the automation of intermediate transmission stations that receive and retransmit programming. The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast").
Column 3 lines 37-39.	The programming may be delivered to the transmission facility by any means including broadcast, hard-wire, and manual means.		Page 11 lines 16-19.	... the present invention has capacity for transmitting data and control instructions in the same information stream to many different apparatus at a given subscriber station, for causing computers to generate and transmit programming, ...
Column 3 lines 39-41.	The transmission facility may transmit a single channel or multiple channels of programming.		Page 12 lines 21-24.	The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast").
Column 3 lines 41-45.	The method includes a monitoring technique to construct a record for each transmitted channel that duplicates the log that the Federal Communications Commission requires broadcast station operators to maintain.		Page 12 lines 25.	They may transmit single channels or multiple channels.
			Page 12 lines 25-29.	The present invention includes capacity for automatically constructing records for each transmitted channel that duplicate the logs that the Federal Communications Commission requires broadcast station operators to maintain.

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Column 3 lines 45-47.	The method permits the transfer of such records to a predetermined site or sites in a predetermined fashion or fashions.	Page 337 lines 19-21	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.
Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
Column 3 lines 51-56.	This method provides techniques whereby, automatically, single channel, single medium presentations, be they television, radio, or other electronic transmissions, may be recorded, co-ordinated in time with other programming previously transmitted and recorded, or processed in other fashions.	Page 12 lines 30-33. Page 2 lines 8-19.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, especially the automation of combined medium and multi-channel presentations. Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.) ... methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.
		Page 13 lines 10-13.	It is a further purpose of this invention to provide means and methods for recording combined media and/or multi-channel programming and for playing back prerecorded programming of such types.
Column 3 lines 56-60.	Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programming is co-ordinated with presentations from a microcomputer working with data supplied earlier.	Page 12 lines 3-9.	It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information.

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		Page 2 lines 8-19.	<p>Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)</p>
		Page 28 lines 2-3.	<p>This television based combined medium is but one example of many combined media.</p>
Column 3 lines 60-66.	This method provides techniques whereby the timing and fashion of the playing, processing, and co-ordination of a presentation or presentations may be determined at the time and place of transmission or of presentation, either in whole or in part, either locally or remotely, or a combination of these factors.	Page 11 lines 23-31.	<p>It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations. One advantage of the present invention is great ease of use. For example, as will be seen, a subscriber can cause his own information to be processed in highly complex ways by merely turning his television receiver on and tuning to a particular channel.</p>
		Page 450 lines 27-35.	<p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p>
Column 3 line 66 to column 4 line 2.	The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.	Page 13 lines 1-9.	<p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.</p>

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
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		Page 28 lines 29-35.	It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
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IV. COLUMN 4

Column 4 lines 2-4.	The method provides techniques whereby unauthorized use of programming and/or of signals may be prevented.	Page 13 lines 14-17.	It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers.
Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
Column 4 line 6.	The advantage of such embedded signals,...	Page 13 line 26.	Embedded signals provide several advantages.
Column 4 lines 6-9.	...as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing...	Page 13 lines 27-28.	They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
Column 4 lines 9-12.	...that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming,...	Page 13 lines 28-31.	They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.
Column 4 lines 12-13.	...and that they can be monitored.	Page 13 lines 31-32.	They can be conveniently monitored.
Column 4 lines 13-14.	(The techniques described here may use headers and trailers from time to time.)	Page 344 line 33 to page 345 line 14.	Separating the transmission of the end of each program unit and the commencement of the succeeding unit is a brief interval of time. Before transmitting the first program unit and, subsequently, in each one of said intervals, said distribution station transmits a SPAM message that contains execution and meter-monitor segment information that is addressed to ITS computers, 73, and instructs each computer, 73, to identify the information in the meter-monitor segment of said message, to compare said "code" information to the preprogrammed schedule information of said computer, 73, and if a match results, to select and record the programming of the program unit that follows said message, or if no match results, to not select and not record said programming. Each message contains meter-monitor "program unit identification code" information of the program unit that immediately follows.

1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language
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Column 4 lines 14-17.	The embedded signals may run and repeat continuously throughout the programming or they may run only occasionally or only once.	Page 14 lines 3-5.	In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once.
Column 4 lines 17-18.	They may appear in various and varying locations.	Page 14 line 6.	They may appear in various and varying locations.
Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
Column 4 lines 22-25.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 11-14.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.
Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	In television audio, they are likely to lie between eight and fifteen kilohertz.
Column 4 lines 26-28.	Signals may also be transmitted on frequencies outside the ranges of television and radio.	Page 14 lines 15-17.	In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming....
		Page 463 lines 10-29.	(To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].)
Column 4 lines 28-30.	Different and differing numbers of signals may be sent in different and differing word lengths and locations.	Page 533 lines 9-17.	In the preferred embodiment... SPAM messages are composed of varying numbers and sequences of segments of highest priority, intermediate priority, and lowest priority segment information. Complex SPAM receiver apparatus

Specification Correlation Chart

			have means and are preprogrammed to process at register memory execution segment information of varying lengths of binary information.
Column 4 lines 31-33.	The present invention provides a method for obscuring the meaning of the signals to prevent unauthorized use of the signals and of their associated programming.	Page 13 lines 14-17.	It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers.
Column 4 lines 34-36.	Their meanings may be obscured through encryption so that apparatus described below are necessary to decrypt them.	Page 13 lines 17-19.	Such means and methods include techniques for encrypting programming and/or instructions and decrypting them at subscriber stations.
Column 4 lines 36-40.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.	Page 13 lines 19-24.	They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
Column 4 lines 40-46.	Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.	Page 14 lines 10-25.	... [signals] will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
		Page 60 line 19 to page 61 line 1.	SPAM messages are composed of elements—headers, execution segments, meter-monitor segments, and information segments—whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information

Specification Correlation Chart

			has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.
		Page 91 lines 18-20.	All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.
Column 4 lines 47-49.	The present invention also provides a method for identifying attempts to make unauthorized use of signals and the programming associated with signals.	Page 293 lines 32-35.	At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion--not resulting in a match causes...
Column 4 lines 49-50.	When an apparatus finds that signal words fail to appear in places...	Page 293 lines 28-33.	(Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM...
Column 4 line 51.	...and at times when and where they are expected,...	Page 300 lines 10-12.	In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information....
		Page 301 lines 4-10.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with....
Column 4 lines 51-53.	...the apparatus may automatically contact one or more remote sites...	Page 294 lines 10-13.	...causes said controller, 20, to cause the auto dialer, 24, and telephone connection, 22, to establish telephone communications with a particular predetermined remote station, in the fashion described above....
		Page 301 lines 18-21.	...said portion causes controller, 20, to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined

Specification Correlation Chart

	...and may or may not disable the flow of programming in one or more ways.		remote station, in the fashion described above....
Column 4 lines 53-54.		Page 294 lines 1-3, lines 25-27. Page 301 lines 11-14, lines 28-30.	...controller, 20, of said station to cause all information of said local-cable-enabling-message (#7) to be erased from all memory of said station.... ...causes said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station, thereby disabling said apparatus.) ...resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program-enabling-message (#7) to be erased from all memory of said station.... ...the instructions of said portion cause said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station,....
Column 4 lines 55-56.	The present invention contemplates signal processing apparatus....	Page 15 lines 7-8.	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor")
Column 4 lines 56-57.	...comprising a device or devices that can selectively scan transmission channels as directed.	Page 15 lines 12-14.	The apparatus include one or more devices that can selectively scan transmission frequencies as directed....
Column 4 lines 57-59.	The channels may convey television, radio, or other transmission frequencies.	Page 15 lines 16-17.	The frequencies may convey television, radio, or other programming transmissions.
Column 4 lines 59-60.	The input transmissions may be received by means of antennas or from hard-wire connections.	Page 15 lines 17-19.	The input transmissions may be received by means of antennas or from hard-wire connections.
Column 4 lines 61-62.	The scanners/switches, working in parallel or series or combinations, transfer the transmissions...	Page 15 lines 19-21.	The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors....
Column 4 lines 62-65.	...to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;...	Page 15 lines 21-23.	...transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;....
Column 4 lines 65-67.	...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns;...	Page 15 lines 23-26.	...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns;....
Column 4 line 68 to column 5 line 2.	...and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream.	Page 15 lines 26-28.	...and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream.

V. COLUMN 5

Column 5 lines 2-4.	The processors and buffers can have inputs from each of the	Page 15 lines 28-30.	The processors and buffers can have inputs from each of the
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1987 Spec Reference	1987 Language	1987 Spec Reference	1987 Language
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	receiver/detector lines and evaluate information continuously.		receiver/detector lines and evaluate information continuously.
Column 5 lines 4-7.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.	Page 15 lines 30-32.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.
Column 5 lines 7-11.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.	Page 15 line 32 to page 16 line 1.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.
Column 5 lines 11-14.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information as required in a predetermined fashion or fashions.	Page 16 lines 1-3.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information....
Column 5 lines 14-16.	The apparatus has a clock for determining and recording time as required.	Page 16 lines 4-6.	The apparatus has a clock for determining and recording time as required.
Column 5 lines 16-20.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.
Column 5 lines 20-22.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	Page 16 line 10-11.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.
Column 5 lines 23-27.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the basic apparatus described above may omit one or more of the specific operating elements described above.	Page 16 lines 12-15.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the signal processor described above may omit one or more of the specific operating elements described above.
Column 5 line 29.	BRIEF DESCRIPTION OF THE DRAWINGS	See generally page 16 line 33 to page 19 line 1.	BRIEF DESCRIPTION OF THE DRAWINGS
Column 5 lines 30-31.	Fig. 1 is a block diagram of one embodiment of signal processing apparatus.	Page 17 lines 9-10.	Fig. 2 is a block diagram of one embodiment of a signal processor.
Column 5 lines 32-33.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	Page 17 lines 11-12.	Fig. 2A is a block diagram of a TV signal decoder apparatus.
Column 5 lines 34-35.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	Page 17 lines 13-14.	Fig. 2B is a block diagram of a radio signal decoder apparatus.
Column 5 lines 36-37.	Fig. 2C is a block diagram of an other signal decoder apparatus.	Page 17 lines 15-16.	Fig. 2C is a block diagram of an other signal decoder apparatus.
Column 5 lines 38-41.	Figs. 3A 3B and 3C are a block diagram of signal processing apparatus and methods as they might be used in an intermediate transmission facility, in this case a cable system head end.	Page 18 lines 13-15.	Fig. 6 is a block diagram of one example of signal processing apparatus and methods at an intermediate transmission station, in this case a cable system headend.

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Column 5 lines 42-57.	<p>Fig. 4A is a block diagram of a signal processor and a programming decryptor or other interrupt means with signals input to the signal processor before programming decryption. Also included is a local input.</p> <p>Fig. 4B is a block diagram of a signal processor and a decryptor/interruptor with signals input to the signal processor in programming after programming decryption.</p> <p>Fig. 4C is a block diagram of a signal processor and a decryptor/interruptor with signals input both before and after programming decryption.</p> <p>Fig. 4D is a block diagram of a signal processor and a multiple decryptor/interrupters in series, with signals input both before and after programming decryption.</p> <p>Fig. 4E is a block diagram of a signal processor and multiple decryptor/interrupters and with signals from one channel needed for decryption of a second channel.</p>	<p>Page 18 lines 8-9.</p>	<p>Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system.</p>
Column 5 lines 58-60.	<p>Fig. 5 is a block diagram of signal processor apparatus monitoring various programming and viewership patterns.</p>	<p>Page 18 lines 10-12.</p>	<p>Fig. 5 is a block diagram of one example of a signal processing apparatus and methods monitoring system installed to monitor a subscriber station.</p>
Column 5 lines 61-64.	<p>Fig. 6A is a block diagram of signal processor apparatus and methods used to instruct and inform external equipment governing the environment of the local receiver site.</p>	<p>Page 18 lines 18-20.</p>	<p>Fig. 7A is a block diagram of signal processing apparatus and methods with external equipment regulating the environment of the local receiver site.</p>
Column 5 lines 65-68.	<p>Fig. 6B is a block diagram of signal processor apparatus and methods used to co-ordinate a multi-media, multi-channel presentation and monitor such viewership.</p>	<p>Page 18 lines 21-23.</p>	<p>Fig. 7B is a block diagram of signal processing apparatus and methods used to control a combined medium, multi-channel presentation and to monitor such viewership.</p>

VI. COLUMN 6

Column 5 lines 2-4.	<p>The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously.</p>	<p>Page 15 lines 28-30.</p>	<p>The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously.</p>
Column 5 lines 4-7.	<p>From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.</p>	<p>Page 15 lines 30-32.</p>	<p>From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.</p>
Column 5 lines 7-11.	<p>And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.</p>	<p>Page 15 line 32 to page 16 line 1.</p>	<p>And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.</p>
Column 5 lines 11-14.	<p>The apparatus has means for external communication and an automatic dialer and can contact remote sites and</p>	<p>Page 16 lines 1-3.</p>	<p>The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer</p>

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	transfer stored information as required in a predetermined fashion or fashions.		stored information....
Column 5 lines 14-16.	The apparatus has a clock for determining and recording time as required.	Page 16 lines 4-6.	The apparatus has a clock for determining and recording time as required.
Column 5 lines 16-20.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.
Column 5 lines 20-22.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	Page 16 line 10-11.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.
Column 5 lines 23-27.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the basic apparatus described above may omit one or more of the specific operating elements described above.	Page 16 lines 12-15.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the signal processor described above may omit one or more of the specific operating elements described above.
Column 5 line 29.	BRIEF DESCRIPTION OF THE DRAWINGS	See generally page 16 line 33 to page 19 line 1.	BRIEF DESCRIPTION OF THE DRAWINGS
Column 5 lines 30-31.	Fig. 1 is a block diagram of one embodiment of signal processing apparatus.	Page 17 lines 9-10.	Fig. 2 is a block diagram of one embodiment of a signal processor.
Column 5 lines 32-33.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	Page 17 lines 11-12.	Fig. 2A is a block diagram of a TV signal decoder apparatus.
Column 5 lines 34-35.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	Page 17 lines 13-14.	Fig. 2B is a block diagram of a radio signal decoder apparatus.
Column 5 lines 36-37.	Fig. 2C is a block diagram of an other signal decoder apparatus.	Page 17 lines 15-16.	Fig. 2C is a block diagram of an other signal decoder apparatus.
Column 5 lines 38-41.	Figs. 3A 3B and 3C are a block diagram of signal processing apparatus and methods as they might be used in an intermediate transmission facility, in this case a cable system head end.	Page 18 lines 13-15.	Fig. 6 is a block diagram of one example of signal processing apparatus and methods at an intermediate transmission station, in this case a cable system headend.
Column 5 lines 42-57.	Fig. 4A is a block diagram of a signal processor and a programing decryptor or other interrupt means with signals input to the signal processor before programing decryption. Also included is a local input. Fig. 4B is a block diagram of a signal processor and a decryptor/interruptor with signals input to the signal processor in programing after programing decryption. Fig. 4C is a block diagram of a signal processor and a decryptor/interruptor with signals input both before and after programing decryption. Fig. 4D is a block diagram of a signal processor and a multiple decryptor/interrupters in series, with signals input	Page 18 lines 8-9.	Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system.

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	both before and after programming decryption. Fig. 4E is a block diagram of a signal processor and multiple decryptor/interruptors and with signals from one channel needed for decryption of a second channel. Fig. 5 is a block diagram of signal processor apparatus monitoring various programming and viewership patterns.		
Column 5 lines 58-60.		Page 18 lines 10-12.	Fig. 5 is a block diagram of one example of a signal processing apparatus and methods monitoring system installed to monitor a subscriber station.
Column 5 lines 61-64.	Fig. 6A is a block diagram of signal processor apparatus and methods used to instruct and inform external equipment governing the environment of the local receiver site.	Page 18 lines 18-20.	Fig. 7A is a block diagram of signal processing apparatus and methods with external equipment regulating the environment of the local receiver site.
Column 5 lines 65-68.	Fig. 6B is a block diagram of signal processor apparatus and methods used to co-ordinate a multi-media, multi-channel presentation and monitor such viewership.	Page 18 lines 21-23.	Fig. 7B is a block diagram of signal processing apparatus and methods used to control a combined medium, multi-channel presentation and to monitor such viewership.

VII. COLUMN 7

Column 7 lines 1-5.	Detectors, 34, 37, and 38, line receiver, 33, and high pass filter, 36, all operate in predetermined fashions which fashions may be changed by external controller, 20 (referring to Fig. 1), to be described below.	Page 35 lines 31-35. Page 33 lines 18-21.	Line receiver, 33; high pass filter, 36; detectors, 34, 37, and 38; and controller, 39, all operate under control of controller, 39, and in preprogrammed fashions that may be changed by controller, 39. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.
Column 7 lines 6-11.	If one returns to FIG. 1, one sees that the three separate lines of information outputted from TV signal decoder, 30, are then gated to a buffer/comparator, 8, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest.	Page 29 line 33 to page 30 line 5.	Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, ... and output said signals and said modified signals to buffer/comparator, 8.
Column 7 lines 12-15.	One such other path is that from mixer 2. Mixer 2 and the controlled oscillator, 6, act to select a radio frequency of interest which is inputted to a radio signal decoder, 40, ...	Page 29 lines 26-29.	Simultaneously, mixer, 2, and the controlled oscillator, 6, act to select a radio frequency of interest which is inputted to a radio signal decoder, 40.
Column 7 lines 15-18.	...shown in FIG. 2B. The frequency passes first through standard radio receiver circuitry, 41, well known in the art, a radio decoder, 42, and a standard digital detector, 43.	Page 36 lines 1-14.	Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency. Decoder, 40, in Fig. 2 is one such radio signal decoder. A selected frequency of interest is inputted at a fixed frequency to standard radio receiver circuitry, 41, which receives the radio information of said frequency using standard radio receiver techniques, well known in the art, and transfers said radio information to radio decoder, 42. Radio

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decoder, 42, decodes the signal information embedded in said radio information and transfers said decoded information to a standard digital detector, 43. Said detector, 43, detects the binary signal information in said decoded information and inputs said signal information to controller, 44, discussed more fully below.			
Column 7 lines 18-20.	All operate in predetermined fashions that may be changed by external controller, 20 (referring to Fig. 1).	Page 36 lines 14-17.	Circuitry, 41; decoder, 42; and detector, 43, all operate under control of controller, 44, and in predetermined fashions that may be changed by controller, 44.
		Page 33 lines 18-21.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.
Column 7 lines 20-21.	As FIG. 1 shows, the radio signal detector outputs to buffer/comparator 8.	Page 29 line 32 to page 30 line 5.	Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, ... and output said signals and said modified signals to buffer/comparator, 8.
Column 7 lines 22-24.	(The signal processor apparatus described here is configured to receive broadcast TV transmissions and cablecast TV and radio transmissions.	Page 29 lines 4-7.	Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.
Column 7 lines 24-30.	Were it desirable to process signals in other transmissions such as broadcast microwave transmissions or cablecast transmissions on other than standard TV and radio frequencies, the mixers and switches would be appropriately reconfigured and one or more other signal decoders as described in FIG. 2C would be added.	Page 33 lines 26-33.	... a signal processor can monitor any combination of inputs and transmission frequencies, and the signal processor of Fig. 2 is but one embodiment of a signal processor. Other embodiments can receive and monitor available programming in transmission frequencies other than radio and television frequencies through the addition of one or more other signal decoders such as that of Fig. 2C described below.
Column 7 lines 30-34.	As FIG. 2C shows, the desired frequencies would pass through appropriate other receiver circuitry, 45, well known in the art, and an appropriate digital detector, 46, before being outputted to buffer/comparator 8.	Page 36 lines 18-29.	Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency. A selected other frequency (such as a microwave frequency) is inputted to appropriate other receiver circuitry, 45, well known in the art. Said receiver circuitry, 45, receives the information of said frequency using standard receiver techniques, well known in the art, and transfers said information to an appropriate digital detector, 46. Said detector, 46, detects the binary signal information in said information and inputs said signal information to controller, 47, considered more fully below.
Column 7 lines 34-35.	These, too, can be controlled by controller, 20 (ref. to Fig. 1).	Page 36 lines 29-31.	Circuitry, 45, and detector, 46, operate under control of

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			controller, 47, and in predetermined fashions that may be changed by controller, 47.
Column 7 lines 36-37.	Buffer/comparator, 8, organizes the data stream that it receives according to a pre-determined fashion...	Page 33 lines 18-21.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.
		Page 30 lines 7-9.	Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.
		Page 36 line 32 to page 37 line 3.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs,
Column 7 lines 37-39.	...that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
		Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
		Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and

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			processor and perform protocol conversion functions.
		Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
Column 7 lines 39-43.	In a pre-determined fashion, buffer/comparator, 8, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decrypter, 10.	Page 30 lines 21-26.	In a fashion described more fully below, buffer/comparator, 8, and a controller, 20, which, too, is described more fully below, determine whether signal processor, 26, is enabled to decrypt said information. If signal processor, 26, is so enabled, buffer/comparator, 8, transfers said information to decrypter, 10.
Column 7 lines 43-46.	Decrypter, 10, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required.	Page 30 lines 31-35.	Decrypter, 10, is a standard digital information decrypter, well known in the art, that ... uses conventional decrypter techniques, well known in the art, to decrypt said signals as required.
Column 7 lines 46-47.	Decrypter, 10, then passes the decrypted signals to processor or monitor, 12.	Page 30 line 35 to page 31 line 1.	Decrypter, 10, transfers decrypted signals to controller, 12.
Column 7 lines 47-49.	Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 30 lines 29-30.	Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.
Column 7 lines 50-54.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both.	Page 31 lines 10-14.	Controller, 12, receives the signals inputted from buffer/comparator, 8, and decrypter, 10; analyzes said signals in a pre-determined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both.
Column 7 lines 54-58.	If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission.	Page 31 lines 14-18.	If a signal or signals are to be transferred externally, in a pre-determined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission.
Column 7 lines 59-60.	If they are to be processed further, processor or monitor, 12, passes them to buffer/comparator, 14.	Page 31 lines 18-22.	If they contain meter and/or monitor information and are to be processed further, controller, 12, selects, assembles, and transfers the appropriate information to buffer/comparator, 14.
Column 7 lines 60-64.	Processor or monitor, 12, communicates with clock, 18, and has means to delay the transfer of signals, in a pre-determined fashion, when delayed transfer is determined, in a pre-determined fashion, to be required.	Page 31 lines 26-29.	Controller, 12, receives time information from clock, 18, and has means to delay in a pre-determined fashion the transfer of signals when, in a pre-determined fashion, delayed transfer is determined to be required.
Column 7 lines 65-67.	Buffer/comparator, 14, has means for identifying, according to a pre-determined fashion, which signals are to be recorded.	Page 31 line 30 to page 32 line 6.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information ... organizes said received information into meter records and/or monitor

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			records (called, in aggregate, hereinafter, "signal records") ... and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, ...
Column 7 line 67 to column 8 line 1.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....

VIII. COLUMN 8

Column 8 lines 2-4.	Buffer/comparator, 14, is connected to clock, 18, and has means for adding information such as time of receipt, for example, to signals.	Page 32 lines 14-16.	Buffer/comparator, 14, receives time information from clock, 18, and has means for incorporating time information into signal records.
Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...
Column 8 lines 7-12.	Buffer/ comparator, 14, also has means for determining, in a predetermined fashion, when signals require transfer immediately to a remote site and for communicating such a requirement to controller, 20, and such signals directly with the remote site via telephone connection, 22.	Page 32 lines 16-20.	Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer.
Column 8 lines 13-14.	Digital recorder, 16, may be a memory storage element of standard design.	Page 32 lines 34-35.	Digital recorder, 16, is a memory storage element of standard design.
Column 8 lines 14-16.	It has means for determining in a predetermined fashion how full it is and passing this information to controller, 20.	Page 33 lines 2-4.	In a predetermined fashion, recorder, 16, can determine how full it is and transmit this information to controller, 20.
Column 8 lines 16-19.	The predetermined fashion may include provisions whereby recorder, 16, informs controller, 20, automatically when it reaches a certain level of fullness.	Page 33 lines 4-6.	Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness.
Column 8 lines 20-25.	The signal processor apparatus also has a controller device which includes programmable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.	Page 33 lines 7-12.	Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22.
Column 8 lines 25-27.	The controller, 20, governs the operation of all operating	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of

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Column 8 lines 27-29.	elements of the apparatus. The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3.	all elements of the signal processor ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.	Page 248 line 35 to page 249 line 5.	
Column 8 lines 30-32.	This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired.	In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. Automatically oscillator, 6, causes switch, 1, to shift its contact lever from the first alternate contact to the second alternate contact to which wireless transmissions are inputted and causes mixer, 3, to select the frequency of channel 5 and input said frequency of interest, at a fixed frequency, to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-5 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 5 is inputted to decoder, 30. Receiving said wireless-5 instruction causes control processor, 39J, to cause all apparatus of decoder, 30, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40. Controller, 20, then transmits a particular preprogrammed radio-99.0 instruction to control processor, 44J, that informs said processor, 44J, 99.0 MHz is inputted to decoder, 40. Receiving said radio-99.0 instruction causes control processor, 44J, to cause all apparatus of decoder, 40, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.	Page 248 line 35 to page 249 line 5. Page 253 lines 22-35. Page 265 line 30 to page 266 line 4.	
Column 8 lines 32-35.	The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM	Page 33 lines 18-20. For example, page 290 line 11 to page 291 line	

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<p>Column 8 lines 35-37.</p>	<p>[Controller, 20 can instruct buffer/ comparator, 8,] how to assemble signal words into signal units and join units together for further transfer and...</p>	<p>4.</p>	<p>message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time (when said originating studio commences transmitting the "Wall Street Week" program), controller, 20, causes all apparatus of the TV signal decoder, 30, to delete from memory all information of received SPAM information; transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; causes said control processor, 39J, to cause digital detectors, 34, 37, and 38, to cease inputting detected information to controller, 39, and commence discarding said information (which said detectors, 34, 37, and 37, have capacity to do) and to cause particular apparatus of decoder, 30,--for example, line receiver, 33, and digital detector, 34--to commence receiving and inputting to controller, 39, SPAM information detected in the frequency inputted to decoder, 30; ...</p> <p>They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.</p>
<p>Page 13 lines 19-24.</p>	<p>Page 33 lines 18-20.</p>	<p>Page 37 line 31 to page 38 line 3.</p>	<p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...</p> <p>Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital</p>

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Column 8 lines 40-44.	<p>[Controller, 20] can tell processor or monitor, 12, how to determine which signals to pass externally and when and where and how to determine which signals to pass to buffer/comparator, 14.</p>	<p>Page 33 lines 18-20.</p> <p>Page 149 lines 8-15.</p> <p>For example, page 150 lines 29-35.</p> <p>For example, page 152 line 19 to page 153 line 1.</p>	<p>decryptor, 10, to controller, 12, without alteration.</p> <p>Controller, 20, has capacity for controlling the operation of all elements of the signal processor and ...</p> <p>Then said ... instructions cause controller, 20, to transmit to controller, 12, a particular transfer-decrypt-message instruction and particular decryption mark information of key J that identifies J as the decryption key.</p> <p>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed transfer- and-meter instructions ...</p> <p>Automatically, controller, 12, executes preprogrammed transfer-to-205-@12 instructions; activates the output port that outputs to SPAM- controller, 205C; then commences transferring information of said decrypted information of the second message under control of said transfer-and-meter instructions commencing with the first of said H bits and transferring information, ...</p> <p>... causes controller, 12, to cease transferring information, under control of said transfer-and-meter instructions, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions.</p> <p>Said meter instructions cause controller, 12, ... to transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).")</p> <p>Buffer/comparator, 14, operates under control of controller, 20, ...</p> <p>... buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.</p>
Column 8 lines 44-46.	<p>[Controller, 20] can tell buffer/comparator, 14, what and how to count, what and how to mark signals, and what received signals to discard.</p>	<p>Page 32 lines 20-21.</p> <p>Page 32 lines 10-13.</p>	<p>Buffer/comparator, 14, operates under control of controller, 20, ...</p> <p>... buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.</p>

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		For example, page 223 lines 22-33.	Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.
		For example, page 224 lines 12-16.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...
Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	Page 33 lines 18-20. Page 273 lines 4-6.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ... The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station.
		Page 273 lines 21-25.	... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
Column 8 lines 50-55.	The controller, 20, also controls the automatic telephone dialing device, 24, to allow the apparatus to automatically output its own information in accordance with a predetermined sequence and to change telephone numbers dialed as required.	Page 273 lines 6-8.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.
		Page 274 lines 11-13.	Controller, 20, transfers the telephone number, 1-800-CHARGES, to auto dialer, 24, and causes the dialing of said number.
Column 8 lines 56-58.	To facilitate the operation of the device, the controller, 20, can receive information from all operating elements of the apparatus.	Page 33 lines 18-21.	Controller, 20, has capacity for ... all elements of the signal processor and can receive operating information from said elements.
Column 8 lines 58-60.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 290 lines 26-31.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable

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			control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ... In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. ... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal. Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station. Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
		Page 291 lines 21-24.	
		Page 59 lines 29-31.	
Column 8 lines 60-62.	An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.	Page 402 lines 22-26.	
		Page 403 lines 7-12.	
		Page 405 lines 20-29.	
Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.	Page 59 lines 29-31.	
		For example, page 531 lines 17-22.	
Column 8 lines 65-68.	Buffer/comparator, 14, has the capacity to pass received time signals to the controller, 20, in a predetermined fashion set by	Page 32 lines 24-32.	

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	and changeable by controller, 20.		For example, page 179 lines 24-32.	given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex—buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, ... Automatically, under control of said process-monitor-info instructions, onboard controller, transmits to controller, 20, a particular preprogrammed instruct-to-record instruction that causes controller, 20, to cause onboard controller, 14A, to transmit the monitor record of said prior programming to recorder, 16, in a predetermined fashion and that causes controller, 20, to cause recorder, 16, to record said monitor record information in a predetermined fashion. ... is described more fully below. Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements. Controller, 20, has capacity to turn off any program instructions, to cause the control processor, 39J, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions ... At each station where a match fails to occur—which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, ...
Column 8 line 68 to column 9 line 4.	Buffer/comparator, 8, and monitor or processor, 12, each have the capacity to inform controller, 20, when signals that they are instructed to look for in predetermined fashions, set by and changeable by controller, 20, fail to appear.		Page 33 lines 18-21. For example, page 300 line 32 to page 301 line 1. with respect to Page 301 lines 6-11.	

IX. COLUMN 9

Column 9 lines 4-8.	Oscillator, 6, the controller, 20, and buffer/comparator, 8, can interact in such a fashion that buffer, 8, can identify the channel that any given signal is received on and mark the	Page 258 lines 17-25.	... said wireless channel 9 and causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.
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Specification Correlation Chart

	signal for subsequent identification of the channel.		Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30. ... commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)") ... Receiving any given old programming message causes onboard controller, 14A, to ... determine that the channel mark ... in said old programming message matches the channel mark ... of a selected monitor information record previously initiated ... Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness.
Page 260 lines 5-13.			
Page 270 lines 5-12.			
Column 9 lines 8-10.	Digital recorder, 16, can tell the controller, 20, when it reaches predetermined levels of fullness...		
Column 9 lines 10-12.	to permit the controller, 20, to instruct auto dialer, 24, to contact an appropriate remote site allowing the recorder, 16, to output its data		In each example, ... recorder, 16, measures the quantity of its recording capacity that holds signal records, in a predetermined fashion, and determines that said quantity is equal to or greater than said particular fullness information. Said determining causes recorder, 16, to transfer a particular instruct-to-call instruction to controller, 20, that causes controller, 20, to activate telephone connection, 22, and proceed with a particular preprogrammed telephone signal record transfer sequence that is fully automatic. The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.
Column 9 lines 13-16.	...making memory available. In normal operation, controller,	Page 275 line 33 to	Automatically said second computer responds with a

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	20, may be instructed by the remote site to erase recorder, 16, which instruction controller, 20, effects through communication with recorder, 16,...	page 276 line 2.	particular transmission complete signal that causes controller, 20, to terminate said telephone call then to cause recorder, 16, to erase from memory all said meter charge information.
Column 9 lines 16-19.	...however, controller may ignore such an instruction in a predetermined fashion, if the information in recorder, 16, is to be conveyed to more than one remote sites.	Page 273 line 30 to page 274 line 10.	Automatically said first computer determines, in a predetermined fashion, that the audit information has been received correctly and completely, and said determining causes said first computer automatically to transmit a particular transmission complete signal to controller, 20. Receiving said complete signal causes controller, 20, to cause telephone connection, 22, to terminate said telephone call. Then controller, 20, transfers information to recorder, 16, that causes recorder, 16, to erase from memory all said record and other information that is <i>not also meter charge information or monitor information</i> . Having completed the first stage, controller, 20, then commences automatically the second stage of said sequence which involves <i>transferring meter charge information</i> to a particular second host computer at a second remote station.
Column 9 lines 20-21.	The controller, 20, can shut off any element or elements of the apparatus in whole or in part.	Page 33 lines 21-23.	Controller, 20, has capacity to turn off any element or elements of controlled subscriber station apparatus, in whole or in part, ...
Column 9 lines 21-22.	It is interactive with external sources via telephone connection, 22,...	Page 273 lines 6-19.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to-receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20.
Column 9 line 23.	...and can be reprogrammed from such remote sources.	Page 537 lines 6-17.	At 3:10 AM, GMT, said <i>European master network station</i> transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain

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			<p>operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.</p> <p>...particular information of said TELEPHON.EXE module that causes ... signal processor, 200, to transmit the information ... via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.</p> <p>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said <i>European master network</i> origination and control station ...</p> <p>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated ...</p>	<p>with respect to page 555 line 24 to page 556 line 14.</p>
Column 9 line 26.	Operation of Signal Processor Apparatus	<p>See generally Page 86 line 31 to page 278 line 20</p>	<p>Operating Signal Processor Systems ... Introduction</p>	
Column 9 lines 27-31.	The simplest forms of signal processor apparatus are each of the five paths described in Figures 2A, 2B, and 2C. Each path, by itself, is capable of identifying signals in the portions of programing transmissions that each receives.	<p>Page 34 lines 18-20.</p> <p>Page 17 lines 11-16.</p> <p>Page 15 lines 18-22.</p>	<p>Signal decoder apparatus such as decoder, 203, in Fig. 1 and decoders, 30 and 40, in Fig. 2 are basic in the unified system of this invention.</p> <p>Fig. 2A is a block diagram of a TV signal decoder apparatus.</p> <p>Fig. 2B is a block diagram of a radio signal decoder apparatus.</p> <p>Fig. 2C is a block diagram of an other signal decoder apparatus.</p> <p>... transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches</p>	

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			working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. ... processes signal information embedded in an inputted radio frequency. ... processes signal information embedded in a frequency other than a television or radio frequency. <i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal. The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal. The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...
Column 9 lines 33-40.	Each path is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Page 14 line 35 to page 15 line 2. Page 36 lines 2-3. Page 36 lines 19-20. Figs. 2A-2C. Page 35 lines 1-6. Page 35 lines 16-18. Page 35 lines 27-30. Page 36 lines 1-3. Page 36 lines 18-20.	Fig. 2B shows a signal decoder that detects and processes signal information embedded in an inputted radio frequency. Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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			other than a television or radio frequency.
Column 9 lines 41-44.	The signal processor apparatus described in FIG. 1 can identify such signals in multiple and variable locations in multiple and variable modes, channels, and transmissions.	Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. <i>See generally.</i>
Column 9 lines 44-47.	Such signals may be transmitted over and over continuously in such transmissions or they may be transmitted over and over only for predetermined time intervals.	Page 248 line 13 to page 271 lines 30. Page 457 line 12 to page 463 line 28. Page 14 lines 3-6.	<i>See generally.</i> In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations.
Column 9 lines 47-52.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.	Page 248 line 17 to page 249 line 5. Page 257 line 24 to page 258 line 19.	Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern. Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ... Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.
Column 9 lines 53-55.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at	Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next

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	a particular time interval.		<p>channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
Column 9 lines 55-57.	This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 265 line 27 to Page 266 line 21.	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synch command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>

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Column 9 lines 57-63.	The same controller will control buffer/comparator, 8, to discard received duplicate and partial signals, to mark signals with correct channel identifiers, to transfer signals to decrypter, 10, and processor or monitor, 12, as required, and to perform such other functions as buffer/ comparator, 8, performs.	Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
		Page 146 line 31 to page 147 line 3.	Said failures to match cause the controllers, 20, of said stations automatically ... to cause said buffer/comparators, 8, to discard all received information of said second message; and to cause ... said buffer/comparators, 8, to commence processing in the conventional fashion.)
		Page 258 lines 17-25.	... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30.
		Page 260 lines 5-13.	... commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".)
		Page 147 lines 29-31.	Then said decrypt-with-J instructions cause controller, 20, to activate the output capacity of buffer/comparator, 8, that outputs to decryptor, 10;
		Page 149 lines 17-20.	Next said decrypt-a-00-header-message instructions cause controller, 20, to cause buffer/comparator, 8, to transfer to decryptor, 10, a quantity of signal words of said binary information of the second message ...
		Page 149 lines 27-29.	

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Column 9 lines 63-65.	The controller, 20, instructs decryptor, 10, what to decrypt and in what fashion.	Page 147 lines 23-28. Page 149 line 27 to page 150 line 6.	<p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, ...</p> <p>Among said preprogrammed instructions is key information of J, and said instructions cause controller, 20, automatically to select and transfer said key information to decryptor, 10.</p> <p>Decryptor, 10, receives said key information and automatically commences using it as its key for decryption.</p> <p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.</p>
Column 9 lines 65-68.	[Controller, 20] instructs processor or monitor, 12, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.	Page 149 lines 8-16. Page 150 lines 7-9. Page 150 lines 16-21.	<p>Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular <i>transfer-decrypted-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key.</p> <p>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer-and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.</p> <p>Under control of said <i>transfer-and-meter instructions</i>, controller, 12, commences receiving decrypted information of the second message from decryptor, 10.</p> <p>Automatically controller, 12, processes said information of the second message of example #2 as a SPAM</p>

Specification Correlation Chart

<p>command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.</p> <p>Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of said <i>transfer-and-meter instructions</i>, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark-@12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).")</p>	<p>Page 152 line 18 to page 153 line 1.</p>		
<p>Buffer/comparator, 14, operates under control of controller, 20, ...</p> <p>Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.</p> <p>When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion</p>	<p>Page 32 lines 20-21.</p> <p>Page 223 lines 22-33.</p> <p>Page 224 lines 12-18.</p>	<p>The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.</p>	<p>Column 9 line 68 to column 10 line 2.</p>

1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language
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			then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.
X. COLUMN 10			
Column 10 lines 2-4.	The controller activates digital recorder, 16, thus defining the location in memory of each of the signals and signal strings.	Page 224 lines 12-18.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, ... and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.
Column 10 lines 4-8.	The controller, 20, also controls the automatic telephone dialing device, 24, which can automatically output the digital information on the digital recorder, 12, to a remote site through a telephone connection, 22.	Page 273 lines 6-11.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. ...causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
Column 10 lines 8-10.	The controller, 20, can also set the proper time into clock, 18, should this step be necessary.	Page 290 lines 14-16. Page 33 lines 18-21.	Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval.... Controller, 20, has capacity for controlling the operation of all elements of the signal processor....
Column 10 lines 10-13.	The controller, 20, operates in a predetermined fashion that can be altered by external means communicating by means of the telephone connection, 22.	Page 273 lines 16-25.	Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20. Receiving said start signal, sent automatically in response to controller, 20's, instruct-to-receive signal, causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
Column 10 line 14.	Method of Use at an Intermediate Transmission Point	See generally page 324	Automating Intermediate Transmission Stations

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<i>Specification Correlation Chart</i>			
Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	line 7 to page 390 line 11. Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. ...stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming....
Column 10 lines 20-23.	They can be used in a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 12-14.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	The means and methods for transmitting conventional programming are well known in the art.
Column 10 lines 28-30.	The means for and method of transmission of programming described here is well known in the art.	Page 324 lines 21-23.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.
Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire....
Column 10 lines 40-41.	All of these received transmissions feed into the facility by hard-wire and...	Page 324 lines 31-33.	...a conventional matrix switch, 75, well known in the art,....
Column 10 lines 41-42.	...connect, by means of conventional switches (here matrix switch, 75), to...	Page 324 line 34.	...one or more recorder/players, 76 and 78,....
Column 10 lines 42-43.	...and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 35.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
Column 10 lines 43-47.		Page 325 lines 1-4.	

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Column 10 lines 48-49.	92. Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.	Page 325 lines 5-6.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.
Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
Column 10 lines 53-57.	In the present art, the identification of incoming programming, however received; the operation of video player and recorder equipment, 76 and 78; and the maintenance of records of programming transmissions are all largely manual operations.	Page 325 lines 10-14.	In the prior art, the identification of incoming programming, however received; the operation of video player and recorder equipment, 76 and 78; and the maintenance of records of programming transmissions are all largely manual operations.
Column 10 lines 58-60.	FIGS. 3A, 3B and 3C shows the introduction of signal processing apparatus and methods to automate these and other operations.	Page 325 lines 15-16.	Fig. 6 shows the introduction of signal processing apparatus and methods to automate these and other operations.
Column 10 lines 61-63.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
Column 10 lines 63-64	They are fed along the conventional paths described above.	Page 324 lines 31-33.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire....
Column 10 lines 64-66.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths.	Page 325 lines 17-21.	In line between each of the aforementioned receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths.
Column 10 line 66 to Column 11 line 1.	One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 21-24. Page 324 line 31 to page 325 line 4.	One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions

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			over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
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XI. COLUMN 11

Column 11 lines 1-3.	The other path flows from each distribution amplifier, 63 through 70, individually to signal processor, 71.	Page 325 lines 24-27.	The other path inputs the transmission of said given receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.
Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...
Column 11 lines 6-7.	...pass them, along with information identifying the channel source of each signal, externally to code reader, 72.	Page 326 lines 7-11.	...adds, ... source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
Column 11 lines 8-10.	Signal processor, 71, also has means to record said signals and transfer them to external communications network, 97.	Page 326 lines 11-15.	Signal processor system, 71, also has signal processor means to control signal processor system, 71, to record meter-monitor information of said message information, and to transfer recorded information to external communications network, 97.
Column 11 lines 12-14.	Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 326 lines 16-18.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.
Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
Column 11 lines 18-21.	The controller/computer, 73, has means for receiving input information from local input, 74, and from remote sources via telephone or other data transfer network, 98.	Page 326 lines 27-30.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
Column 11 lines 21-22.	Such input information might include the cable television system's complete programming schedule;...	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6;....
Column 11 lines 22-24.	...with each discrete unit of programming identified with a unique program code...	Page 326 lines 31-33.	...with each discrete unit of programming identified by its own "program unit identification code" information.
Column 11 lines 25-28.	Such input information might also indicate when and where	Page 326 lines 33-35.	Such input information can indicate when and how the

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	the cable head end facility should expect to receive the programming.		station should expect to receive each program unit,....
Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit,....
Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programming unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
Column 11 lines 38-39.	By comparing identification signals on the incoming programming...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
		Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
		Page 28 lines 26-27.	...monitor information that identifies what programming is available,....
		Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
Column 11 line 39.	with the programming schedule...	Page 328 lines 9-10.	...with information of the programming schedule,....
Column 11 lines 39-41.	...received earlier from local input, 74, and/or from a remote site via network, 98,...	Page 328 line 10.	...received earlier from input, 74, and/or network, 98, computer, 73,....
		Page 326 lines 28-30.	...receiving input information from local input, 74, and from

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			remote stations via telephone or other data transfer network, 98.
Column 11 lines 41-43.	...controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 11-13.	...computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ...
Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78,
Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 18-22.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 22-31.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
Column 11 lines 54-57.	...controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission,...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
Column 11 lines 60-61.	... controller/ computer, 73, selects a video recorder/player,	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video

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Column 11 lines 61-64.	76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	recorder/player, 76 or 78; in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
Column 11 lines 64-65.	... and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
		Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
Column 11 line 67 to Column 12 line 1.	If controller/ computer, 73, determines at any time that it is necessary ...	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...

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XII. COLUMN 12

Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
For column 12 lines 3-8 see the support provided above for column 16 line 67 to column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary ...	Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
		For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program

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			unit D. ... Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ... In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y. Executing the information of said intermediate generation set causes computer, 73, also to generate a ... video image... ...and to organize the locations of the recorded program units, D, Q, W, and Y, to play according to the schedule inputted by said distribution station in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units...." Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. Computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to instruct each how to operate and how and where to search for SPAM information. Computer, 73, monitors the operation of the head end station by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A. Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Fig. 3A shows one such preferred controller, 39.
		For example, page 333 lines 15-21. For example, page 334 lines 1-6.	
Column 12 lines 8-12.	Were this head end facility equipped with automatic operating equipment well known in television studios, controller/computer, 73, could pass appropriate operating instructions to such equipment.	For example, page 365 line 22 to page 366 line 4. For example, page 349 lines 14-20.	
Column 12 lines 13-16.	Controller/computer, 73, monitors the operation of the head end facility by means of TV signal decoders, 77, 79, 80, 84, and 88, each of which are shown in detail in Fig. 2A.	Page 327 lines 13-15.	
Column 12 lines 16-20.	Controller/computer, 73, has means to communicate control information with each decoder, 77, 79, 80, 84, and 88, to tell each how to operate and how and where to look for signals and to communicate other information. (This particular embodiment could be expanded to include a decrypter, such as decrypter 10 in Fig. 1, in signals-only line between each decoder, 77, 79, 80, 84, and 88, and controller/computer, 73.)	Page 327 lines 15-18. Page 327 lines 13-15.	
Column 12 lines 20-23.		Page 36 lines 32-33. Page 156 line 33.	

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Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programing contains.	Page 161 lines 34-35. Page 327 lines 24-31.	As Fig. 3A shows, the preferred embodiment of controller, 39, also has a decryptor, 39K. Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained scheduled records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78. ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 line 5 to Page 331 line 3.	Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...)
Column 12 lines 35-38	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required,....	Page 354 lines 18-21.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required,....
Column 12 lines 38-41.	... and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM

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Column 12 lines 45-47.	signals to programming as required. Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96,	Page 337 lines 1-8.	information as required. Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96,
Column 12 lines 47-50.	which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.
Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 12-19.	By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.
Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.
Column 12 lines 57-58.	This particular embodiment describes a transmission facility transmitting only television programming.	Page 339 lines 9-11.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming....
Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-26.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.
Column 12 lines 61-64.	... by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.	Page 339 lines 16-21.	... by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting

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		receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; decryptors that may ... and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously. From the processors and buffers, the signals may be transferred to external equipment such as computers,....
Column 13 lines 21-23.	...a signal or signals to decrypter/interrupter, 101 , either at the time of receipt of such programming...	Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm....
		<p>The second message conveys the second combining synch command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.</p> <p>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses</p>

See also page 143, lines 10-30.

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Column 13 lines 23-24.	URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs.		Page 31 lines 26-29.	Controller, 12, receives time information from clock, 18, and has means to delay in a predetermined fashion the transfer of signals when, in a predetermined fashion, delayed transfer is determined to be required.
Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission...		Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
Column 13 lines 26-27.	...or not to decrypt the transmission or to interrupt the transmission...		Page 300 lines 30-32.	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW-program instructions, to cause the control processor, 39J....
			Page 301 lines 1-3.	A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.
			At a station where Page 301 lines 4-31.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program-enabling-message (#7) to be erased from all memory of said station ... thereby disabling said apparatus.)
			with respect to page 297 lines 23-29,	... a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions ... (Hereinafter said

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			message is called the "1st-WSW-program-enabling-message (#7)."
		Thus preventing through erasure page 301 lines 32-34 And page 310 lines 20-24.	<p><i>Resulting in a match causes controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions.</i></p> <p>...microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.</p>
Column 13 line 27.	...or not to interrupt the transmission.	Page 300 lines 30-32	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW-program instructions, to cause the control processor, 39J,....
		Page 301 lines 1-3	A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.
		Page 301 lines 32-34	Resulting in a match causes controller, 20, to execute a particular portion of said 1st-stage-enable-WSW-program instructions.
		with respect to page 310 lines 20-24.	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW-program instruct microcomputer, 205, to commence transferring the decrypted information of the transmitted video image to monitor, 202M, thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.
Column 13 lines 27-29.	The signal or signals may also inform decrypter/interrupter, 101, how to decrypt...	Page 295 line 24 to page 296 line 3.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected

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			<p>decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258.</p> <p>The second message conveys the second combining synch command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.</p> <p>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs.</p>
See also page 143, lines 10-30.			<p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J,....</p> <p>(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station....</p>
Column 13 lines 29-31.	...or interrupt the programing if decrypter/ interrupter, 101, is capable of multiple means.	Page 300 lines 30-32. Page 301 lines 4-14.	
Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the

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	for the decryption of the transmission.		enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job. An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art. Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,.... ...thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program.... Finally, Fig. 4 shows local input, 225, well known in the art, which has means for generating and transmitting control information to controller, 20, of signal processor, 100. The function of local input, 225, is to provide means whereby a subscriber may input information to the signal processor of his subscriber station, thereby controlling the functioning of his personal signal processor system is specific predetermined fashions that are described more fully below. Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System that is the third feature of the present invention. In example #7, the controller, 20, of the signal processor,
Page 54 lines 2-6.			
Page 294 lines 28-35.			
Page 295 line 27 to page 296 line 2.			
Column 13 lines 33-35.	FIG 4A also shows local input, 102, with means for generating and transmitting signals to signal processor, 100.	Page 288 lines 1-4.	
Column 13 lines 35-36.	Local input, 102, is intended to permit a person at a local receiving site...	Page 288 lines 4-9.	
Column 13 lines 36-37.	...that is prevented, by any means, from receiving programming...	Page 286 lines 6-8.	
Column 13 lines 37-39.	...to instruct signal processor, 100, that the site wants to be	Page 289 lines 22-33.	

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	enabled to receive the programming.		<p>200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>(So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.</p>
Column 13 lines 39-40.	Local input, 102, may also serve other purposes.	Page 395 lines 30-33.	Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time.
Column 13 lines 40-41.	Local input, 102, may convey a continuous signal or an occasional signal or a one-time-only signal.	Page 289 lines 29-33.	For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.
Column 13 lines 42-43.	It may be activated by one or more switches or buttons or combinations.	Page 395 lines 30-33.	Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time.
Column 13 lines 43-44.	It may be a computer acting in a predetermined fashion.	Page 288 lines 9-13.	In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard.
		Page 288 lines 13-20.	As Fig. 4 shows, microcomputer, 205, also has capacity for inputting control information ..., and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 13 lines 44-47.	The signal may be input to signal processor, 100, as described in FIG 1, at buffer/comparator, 8, or signal processor or monitor, 12, or buffer/comparator, 14.	Page 289 lines 29-33.	For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.

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Column 13 lines 61-62.	...or some combination, as with signal processor 106 in FIG 4C.	Page 290 lines 28-29. Page 291 lines 9-28.	<p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system....</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ..., to transmit a particular enabling SPAM message that consists of ... particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location.</p> <p>... "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system...</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... from said tuner, 215, ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion ..., to decrypt said information, and to transfer decrypted information of said video ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information</p> <p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it</p>
Column 13 lines 63-68.	However, FIGs 4A, 4B, and 4C do not fully illustrate this point because these figures do not reveal that the question of	Page 289 lines 25-27. Page 290 lines 28-29. Page 299 lines 19-31	

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	the need for decryption prior to reaching the signal processor depends, among other things, on where the signal or signals are placed in the incoming transmission.		to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.
Column 13 line 68 to column 14 line 1.	A decrypter does not necessarily decrypt the entire transmission.	Page 149 line 27 to page 150 line 6.	Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.

XIV. COLUMN 14

Column 14 lines 1-2.	Encrypted transmissions may be only partially encrypted.	Page 288 line 30 to page 289 line 4.	In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal that consists of so-called "digital video" and "digital audio," well known in the art. Prior to being transmitted, the digital video information is doubly encrypted, ... The digital audio is transmitted in the clear.
Column 14 lines 2-3.	For example, only the video portion of the transmission may be encrypted.	Page 288 line 33 to page 289 line 3.	Prior to being transmitted, the digital video information is doubly encrypted, ... The digital audio is transmitted in the clear.
Column 14 lines 4.	The audio portion may remain unencrypted.	Page 289 lines 3-4.	The digital audio is transmitted in the clear.
Column 14 lines 4-9.	In such a circumstance, a connection such as that shown in FIG 4B could pass unencrypted signals to signal processor	Page 297 lines 20-32.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said

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	103, while passing a transmission unsuitable for satisfactory viewing, if the signals were placed in the audio portion of the overall transmission.		program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of ... particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, ... to detect the information of said message ...
Column 14 lines 10-12.	...a method that provides a signal or signals to signal processor, 106, prior to decryption...	Page 291 lines 9-24.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message....
Column 14 lines 12-14.	...which signal or signals enables decryptor/interruptor, 107, to decrypt and/or pass programming transmissions it receives...	Page 294 line 28 to page 295 line 34.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ... thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, ... causes decryptor, 107, to commence decrypting its received audio information, ...
Column 14 lines 14-17.	...then signal processor, 106, searches in a predetermined fashion for a second signal or set of signals in the decrypted output of decryptor/interruptor, 107.	Page 296 lines 3-23.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, thereby

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			causing signal processor, 200, to receive said information at a particular third alternate contact of switch, 1, (that is not shown in Fig. 2). Automatically, controller, 20, ... causes switch, 1, to connect to said third contact, thereby inputting said information to mixer, 3; and causes mixer, 3, (by control transmission means via oscillator, 6) to transfer said information without any modification; causes the control processor, 39J, of decoder, 30, to cause the filter, 31, and modulator, 32, to transfer said information without any modification; causes said control processor, 39J, ... to cause digital detector, 38, to commence inputting detected information to controller, 39; and causes said control processor, 39J, to commence waiting to receive the header information of a SPAM message.
		Page 300 lines 10-21.	<p>In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information that is not a SPAM message and consists only of a particular check sequence of binary information followed by an end of file signal. (Hereinafter said SPAM check information is called the "1st- WSW-decryption-check (#7).") ...</p> <p>Receiving the binary information of said check sequence at decoder, 30, causes digital detector, 38, to detect said information and causes control processor, 39J, to ...</p> <p>(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable- WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station ... then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. ... thereby disabling said apparatus.)</p>
Column 14 lines 17-21.	If this second signal or set of signals fails to appear in the form or forms and place or places and time or times that signal processor, 106, expects, signal processor, 106, can respond in a predetermined fashion and generate...	Page 301 lines 4-31.	<p>Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a</p>
Column 14 lines 21-22.	...and record in digital recorder, 16 (referring to Fig. 1),...	Page 31 line 30 to page 32 line 2.	

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Column 14 lines 22-25.	...information that reports this fact in a predetermined fashion and/or transfer this information immediately to a remote site by telephone means and/or ...	Page 301 lines 4-25.	predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... , then to ... , to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above, and causes controller, 20, then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. ...
Column 14 lines 25-27.	generate and transmit to decryptor/interruptor, 107, instructions that disable decryptor/interruptor, 107.	Page 311 line 33 to page 312 line 4. Page 301 lines 4-31.	And for example, determining that a local station is not preprogrammed properly and/or that decryption ... apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating--eg., the local apparatus may disable local apparatus selectively and only partially by, for example, preventing a decoder, ... (Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station ... thereby disabling said apparatus.)
Column 14 lines 28-32.	FIG 4D shows that a multi-stage decryption/interruption process may be used in which transmissions must be processed by one or more additional decryptor/interruptors, 111, that follow decryptor/interruptor, 110.	Page 299 lines 13-27.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby

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		Page 305 lines 9-31.	causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258. Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, ... to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission. ... Automatically, controller, 20, causes matrix switch, 258, ... to commence transferring the information inputted from decryptor, 224, to the output that outputs ... to decryptor, 231; indicating that decryptors, 224 and 231, are decrypting received information correctly.
Column 14 lines 33-35.	FIG 4E illustrates that the signal processor, 112, can monitor multiple channels and pass instructions to multiple decryptor/interruptors,...	Page 29 lines 8-15.	At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
		Page 287 lines 22-29.	As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls ... decryptors, 107, 224 and 230; ...
Column 14 lines 35-37.	...each of which processes fewer channels than the multiple channels processed by signal processor, 112.	Page 299 lines 13-27.	Automatically, controller, 20, ... causes decryptor, 224, to commence decrypting any received information, ... and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer ... the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.
		Page 305 lines 9-32.	Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, ... to commence

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			transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231, to At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming.
Column 14 lines 37-39.	FIG 4E illustrates how signals transmitted on one channel can govern the decryption and/or transfer of another channel.	Page 29, lines 8-11 Page 291 lines 10-24.	... said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message.... ... said "Wall Street Week" program when transmission of said program on cable 13 commences.to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system... Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
		Page 290 lines 27-29. Page 294 lines 28-35.	
Column 14 lines 39-41.	Signal processor, 112, receives, evaluates, and processes a multiple channel transmission from cable transmission facility, 113.	Page 15 lines 7-31.	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, ... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to

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			receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; decryptors that may ... and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously. From the processors and buffers, the signals may be transferred to external equipment such as computers, ...
Column 14 lines 42-43.	Cable converter box, 114 , of which many types are now available,...	289 lines 12-15.	In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6). ...converter box, 201, ...
Column 14 lines 43-44.	...with means for informing signal processor, 112 , which channel of programming it is transferring,...	Page 295 line 8. Page 295 line 6 to page 296 line 7.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;... thereby causing signal processor, 200, to receive said information ...
Column 14 lines 45-46.	...receives the same multi-channel transmission and transfers one channel to decryptor/interruptor, 115 .	Page 295 lines 6-29.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from said box, 201, to the output that outputs to television tuner, 215, and causes said tuner, 215, to tune to said selected frequency, thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the

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Column 14 lines 46-49.	The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,...	Page 299 lines 13-25.	output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion.... Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information,....
Column 14 lines 49-50.	...in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
Column 14 lines 50-51.	They may be preprogrammed into the signal processor (for example,...	Page 299 lines 13-17.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B,....
Column 14 lines 51-52.	...in programmable random access memory controller, 20, in Fig. 1)...	Page 298 line 33 to page 299 line 1. Page 293 line 20.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...such as, for example, the RAM of controller, 20;....
Column 14 lines 52-54.	...or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 291 lines 10-20.	...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") ...
		Page 289 lines 25-27.	... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...

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		Page 290 lines 28-29.	...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system....
		Page 294 lines 28-35.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission.....
Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals...	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
Column 14 lines 55-58.	...or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113,...	Page 289 line 22 to page 290 line 10.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable 13 commences. ... Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on-CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ... In a predetermined fashion, executing said instructions causes controller, 20,....
Column 14 lines 58-59.	...for example, where to look for the signals...	Page 290 lines 11-12.	...causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....
		Page 290 lines 26-30.	
		OR Page 298 lines 17-18.	Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....
		Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key

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Column 14 line 59.	...and when...	Page 290 lines 11-17. OR Page 297 lines 20-21.	Ba. ... In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time.... Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time,
Column 14 line 59.	...and how,...	Page 290 lines 11-12, lines 21-26. Page 291 lines 21-28.	In a predetermined fashion, executing said instructions causes controller, 20,.... transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 391, of said decoder, 30, and causes said control processor, 391, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,.... In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...
Column 14 lines 59-61.	...signal processor, 112, can transfer the signal to decryptor/interruptor, 115.	Page 295 line 30 to page 296 line 1. Page 299 lines 13-18.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion.... Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted

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Column 14 line 61 to column 15 line 1.	The tuner, 119, informs signal processor, 112, what channel box, 114, is switched to whenever it is switched or turned on. Signal processor, 112, receives this information probably at buffer/comparator, 8 (referring to Fig. 1), which signal processor, 112, processes the signal from tuner, 119, in a predetermined fashion that causes the signal or signals that relate to the necessary proper operation of decryptor/interruptor, 115.	Page 295 line 6 to page 296 line 7.	information to matrix switch, 258. ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;... thereby causing signal processor, 200, to receive said information
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XV. COLUMN 15

Column 15 lines 1-4.	If signal processor, 112, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, 115, can decrypt and/or transfer the incoming transmission from box, 114, satisfactorily.	Page 291 lines 21-32.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. So determining a match causes the control processor, 391, to execute particular preprogrammed transfer-this-message-to-controller-20 instructions that are associated with the instance of information at said particular location. Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....
Column 15 lines 4-7.	If signal processor, 112, cannot transfer the needed signal or signals, decryptor/interruptor, 115, cannot decrypt and/or transfer the programming transmission satisfactorily.	Page 294 lines 28-35.	At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with....
Column 15 lines 8-9.	FIG 4E also illustrates how it may be necessary to decrypt a programming transmission on one channel...	Page 301 lines 6-10.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to

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		Page 295 lines 6-30.	<p>receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion ... to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio).</p>
Column 15 lines 9-11.	...in order to identify and process correctly the programming transmitted on another.	<p>Page 300 lines 10-12,</p> <p>Page 300 line 30 to page 301 line 3.</p> <p>Page 299 lines 19-23.</p>	<p>In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information....</p> <p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 391, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions. A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.</p> <p>...controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video.....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, transfers said decryption</p>
Column 15 lines 11-12.	In Fig. 4E, the signal or signals needed to operate decryptor/interruptor, 115, correctly...	Page 298 lines 17-21.	

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			cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258.
Column 15 lines 13-14.	... may be on a separate channel of programming that is, itself, encrypted in transmission.	Page 297 lines 20-29.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions as the information segment information, and an (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")
Column 15 lines 14-15.	Signal processor, 112, can transfer the correct signal or signals...	Page 294 lines 33-35. Page 297 line 28 to page 298 line 9.	...to cause selected apparatus to decrypt the audio portion of said transmission, (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, ... to execute the aforementioned transfer-this- message-to-controller-20 instructions. Executing said instructions causes said control processor, 391, to transfer the information of said message to controller, 20, in the fashion of the local-cable- enabling-message (#7). Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion ... to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio).
Column 15 lines 15-16.	...only if cable converter box, 117, is tuned to the proper channel and ...	Page 295 lines 6-30.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio
Column 15 lines 17-19	...decryptor/interruptor, 118, can transfer a correctly decrypted transmission to signal processor, 112, for processing.	Page 295 line 30 to page 296 line 6.	

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Column 15 lines 20-22.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion...	Page 311 line 33 to page 312 line 2. Page 293 lines 32-35. Page 301 lines 6-9. Page 308 line 35 to page 309 line 3. Page 312 lines 6-8.	information, ... and outputting decrypted information of the audio portion ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating.... At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion.... ... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly.... At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly.... ...may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
Column 15 lines 22-25.	...and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.		Monitoring Receiver Station Reception and Operation
Column 15 line 26.	Methods for Monitoring Reception and Operation	See generally page 162 line 27 to page 193 line 10, and page 312, line 32 to page 324 line 5. Page 28 lines 25-29.	
Column 15 lines 27-30.	FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programming usage and associated uses of other data transmissions and equipment.	Page 312 line 33 to page 313 line 8.	[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local

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			apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ...
Column 15 lines 30-32.	Such statistics are necessary, for example, in the development of television program ratings.	Page 28 lines 29-35.	[Signal processor 200 in Fig. 7 and elsewhere] has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
Column 15 lines 33-39.	FIG 5 shows two conventional TV sets, 132 and 144, a conventional video cassette recorder, 135, a conventional videodisc player, 137, a conventional radio, 141, a conventional microcomputer, 142, a conventional data printer, 146, and a television set, 148, that is capable of displaying two different television programming transmissions at once.	Page 162 lines 31-34.	... signal processing apparatus and methods are used to collect monitor information for so-called "program ratings" (such as so-called "Nielsen ratings") that estimate the sizes of television (or radio) program audiences.
Column 15 lines 39-41.	This is only a representative group of equipment. Many other types of television and radio players and recorders could be included in FIG 5.	Page 313 line 16 to page 314 line 16.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.
Column 15 lines 42-43.	Except for the videodisc player which neither records nor displays programming or other data,...	Page 314 lines 17-19.	Input apparatus include ... Laser disc player, 232, ... videodisc player") ...
Column 15 lines 43-44.	... each unit has an appropriate associated signal decoder.	Page 313 lines 24-30.	Intermediate apparatus include microcomputer, 205, radio tuner & amplifier, 213, TV tuner, 215, audio recorder/player, 255, and video recorder/player, 217, all of which are well known in the art ...
Column 15 lines 44-46.	Each decoder is likely to be located physically inside its associated player/ recorder unit.	Page 314 lines 20-21.	Output apparatus that display or otherwise output programming selectively to human senses include, for example, TV monitor, 202M, multi-picture television monitor, 148, speaker system, 263, and printer, 221, ...
Column 15 lines 46-49.	Each is located at a point in the associated unit's circuitry where it receives every embedded signal on the programming	Page 314 lines 31-33.	(This is only a representative group of equipment; many other types of communications and computer apparatus could be included in Fig. 5.)
		Page 315 lines 14-19.	Input apparatus include ... Laser disc player, 232, ... videodisc player") ...
			Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders.
			At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.
			In the preferred embodiment, each one of said decoders is located at a point in the circuitry of its associated apparatus

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	channel or data channel to which the unit is tuned...		where said one receives (so as to detect all SPAM information on) the information of the selected frequency, channel or transmission to which its associated apparatus is tuned.
Column 15 lines 49-51.	...for which signal the decoder is programed in a predetermined fashion to search.	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, I4, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 15 lines 52-56.	If a unit like the microcomputer can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive.	Page 317 lines 2-6.	If a given intermediate or output apparatus can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive.
Column 15 line 57.	The signals for which the decoders are monitoring...	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, I4, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
		Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
Column 15 lines 58-60.	...are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
		Page 50 lines 14-20.	... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.
Column 15 lines 60-62.	They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
		Page 50 lines 1-4.	...origins of transmissions (eg., network source stations, broadcast stations, cable head end stations); dates and times....
Column 15 lines 62-63.	They may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such

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			information include:
Column 15 lines 63-65.	In the case of data transmitted to the micro- computer, they may be unique codes that identify the source and suppliers of the data.	Page 50 lines 6-7.	...unique identifier codes for each program unit (including commercials);.... Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:.... ...unique codes that identify the sources and suppliers of computer data. ...and causes said AT&T news item to be printed at said printer, 221. ...meter-monitor segment that contains the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T",
Column 15 lines 65-68.	In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertisements, etc.	Page 49 lines 26-28. Page 50 lines 19-20.	
Column 15 line 68- Column 16 line 2.	The decoders, 131, 136, 138, 143, 145, 147, 149, and 150, may search for many types of codes, and the types described here provide only examples.	Page 425 lines 35 to page 426 line 1. Page 421 lines 13-15. Page 50 lines 23-26.	The categories listed here provide only examples. Other types of information can exist in meter information and/or in monitor information, as will become apparent in this full specification.

XVI. COLUMN 16

Column 16 lines 3-4.	In FIG 5, each decoder receives every relevant signal received by its associated player or recorder unit.	Page 314 lines 34-35. Page 315 lines 20-24.	At any given subscriber station, any given SPAM decoder may merely monitor the operation of its associated.... Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 16 lines 5-10.	For example, TV set, 131, may receive programming from many sources including cable converter box, 133, video cassette recorder, 135, and videodisc player, 137. In every programming unit played on TV set, 132, TV decoder, 131, receives every signal for which it is instructed to search in a predetermined fashion and...	Page 313 lines 16-23.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.

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		Page 314 lines 20-28.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At TV tuner, 215, is TV decoder, 282. ... At TV monitor, 202M, is TV decoder, 145.
Column 16 lines 10-11.	...transfers the signals to signal processor, 130,...	Page 315 lines 6-8.	Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means.
		Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 16 lines 11-13.	... which has means to identify the source decoder from which each signal that it receives comes.	Page 322 lines 33-35.	...monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203.
		Page 174 lines 4-14.	Under control of said instructions, said match causes control processor, 39J, to cause matrix switch, 39I, to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, (while said switch is simultaneously transferring information from control processor, 39J, to the CPU of microcomputer, 205); to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,....
Column 16 lines 13-18.	On all programming recorded by video cassette recorder, 135, decoder, 136, receives every relevant signal and transfers such signals to signal processor 130. Radio signal decoder, 138, operates similarly for radio, 141. Other signal decoder, 143, for microcomputer 142.	Page 314 lines 20-26.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. At radio tuner & amplifier, 138, are radio decoder, 138, and other decoder, 281. ... At video recorder/player, 217, is TV decoder, 218. At microcomputer, 205, is TV decoder, 203.
Column 16 lines 18-21.	TV signal decoder, 145, for TV set, 144 (which may receive programming inputs and associated signals generated or transferred by microcomputer, 142).	Page 322 line 26 – Page 323 line 11.	The programming of said "Wall Street Week" program is received at tuner, 215, and displayed at monitor, 202M. Accordingly, transmitting said messages will also cause the decoder associated with tuner, 215-- decoder, 282--to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is identical to said 1st monitor information (#3) and 2nd monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203. Likewise, unless the Fig. 1B information overlaid at microcomputer, 205, covers and obliterates the embedded information of said messages that is

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			inputted from divider, 4, to microcomputer, 205, and would otherwise be transmitted to monitor, 202M, in the combined programming outputted by microcomputer, 205, (which covering and obliterating does not occur in example #3), transmitting said messages will also cause the decoder, 145, to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is also identical to said 1st and 2nd monitor information (#3) except that the source mark information identifies decoder, 145.
Column 16 lines 21-24.	Other signal decoder, 147, for printer 146. And TV signal decoders, 150 and 149, for each channel of programming received and displayed by multi-picture TV set, 148.	Page 314 lines 20-30.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At multi-picture TV monitor, 148, are TV decoders, 149 and 150. ... At printer, 221, is other decoder, 227.
Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 - Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.
Column 16 lines 39-41.	Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.	Page 320 lines 2-8.	Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.
Column 16 lines 41-43.	Decoder, 136, would identify these signals and transfer them to signal processor, 130.	Page 320 lines 9-10.	...decoder, 218, would detect said information and transfer said information to signal processor, 200,
Column 16 lines 43-45.	Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening.	Page 320 lines 24-26.	Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening.
Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said

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			information, together with appropriate source mark information, to signal processor, 131....
Column 16 lines 47-49.	Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage...	Page 321 lines 1-5.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming....
Column 16 lines 49-50.	...(and could also transfer instructions to other external equipment).	Page 476 lines 18-22.	...this method enables any subscriber who records the transmission of said programming at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....
		Page 473 lines 14-17.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred....
Column 16 lines 51-54.	Signal processor, 130, would probably receive these signals from decoders, 131, 136, 138, 143, 145, 147, 149, and 150) at its buffer/comparator unit, 14 (referring to FIG. 1)...)	Page 315 lines 6-10.	Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means. Said information is received (and processed) at signal processor, 200, by the onboard controller, 14A,
		Page 32 lines 24-33.	(In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, similarly to the fashion in which controller, 12 is controlled by controller, 20.)
Column 16 lines 54-56.	...in a predetermined fashion that would permit signal processor, 130, to identify which decoder the individual signals come from...	Page 322 lines 33-35.	...that the source mark information identifies decoder, 282, rather than decoder, 203.
		Page 174 lines 4-17.	Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,....

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		Page 178 lines 27-35.	Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M. Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.
Column 16 lines 56-57.	...and, in a predetermined fashion, create a signal string...	Page 180 lines 1-3.	...creating a meter record that records the decryption....
Column 16 lines 57-58.	...by appending digital information to the received signal which information might...	Page 297 line 15. Page 180 lines 4-15.	Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input- signal-@14A register memory and record information at said record location; to select particular preprogrammed record....
Column 16 lines 59-61.	...identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...
Column 16 lines 61-62.	To minimize the use of data recorder, 16, buffer/comparator, 14,...	Page 323 lines 24-26.	In the preferred embodiment, to minimize unnecessary duplication, prior to retaining monitor information in signal records, onboard controller, 14A, is preprogrammed to....
Column 16 lines 62-64.	...may evaluate signals in a predetermined fashion and discard some signals rather than passing them to the recorder, 16.	Page 180 lines 1-2. Page 180 lines 13-15.	Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record.... ...select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record....

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Column 16 lines 64-66.	It may compare each signal from a given source such as decoder, 131, with other signals received earlier from the same source.	Page 180 lines 20-21.	...finally, to discard all unrecorded information of said 1st monitor information (#3).... Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M.
Column 16 lines 66-67.	It may only count incoming duplicate signals...	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....
Column 16 lines 67 to column 17 line 1.	...or it may append a time code to the end of the basic signal string formed around the first received signal ...	Page 181 lines 12-15.	In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field locations....

XVII. COLUMN 17

Column 17 lines 1-4.	...and alter this time designation each time a new duplicate signal is identified so that the time code identifies the time of receipt of the last duplicate signal.	Page 191 lines 11-21.	...onboard controller, 14A, to locate the instance of "program unit identification code" information at said SPAM-input- signal-@14A register memory, in the fashion described above; to locate the instance of "program unit identification code" information in the aforementioned new monitor record; and to compare said first named instance to said second named instance. A match results. Under control of said process- monitor-info instructions, said match causes onboard controller, 14A, to record date and time information, received from clock, 18, at the aforementioned last particular time field of said new monitor record and, in a
Column 17 lines 4-6.	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information
Column 17 lines 6-9.	At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming

Specification Correlation Chart

			displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.
Column 17 lines 10-12.	Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate.	Page 315 lines 25-28.	In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus,...
Column 17 lines 12-13.	Signal divider, 139, monitors the use of signals rather than the use of programming.	Page 315 lines 25-30.	In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, in the fashions described above, in the execution of SPAM controlled functions.
Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to 316 line 6.	Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)
Column 17 lines 16-17.	... to be handled, recorded, and transmitted to a remote site with all other monitor information.	Page 28 lines 25-35	[Signal processor ... 200 in Fig. 7 ... and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.

Specification Correlation Chart

Column 17 lines 17-21.	In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programming usage and viewership.	Page 322 lines 19-26.	For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3 (which are not encrypted) will cause not only decoder, 203, to process the meter-monitor information of said messages and transmit the aforementioned 1st monitor information (#3) and 2nd monitor information (#3), via the monitor information bus means of Fig. 5, to onboard controller, 14A.
Column 17 lines 21-24.	In this fashion, besides facilitating data gathering on how programming is used, signal processing apparatus and methods also permit the evaluation of how equipment is used.	Page 174 lines 4-23.	Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203, ... then all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")
Column 17 lines 28-33.	...control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.)	Page 312 lines 33-35.	Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation and exemplifies one embodiment...
Column 17 lines 34-36.	Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by	Page 318 lines 2-7.	By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, ...
Column 17 lines 36-38.	Passing Instruction and Information Signals that are Embedded in Television and Radio Programming Transmissions to Such External Equipment	Page 390 line 13.	Automating Ultimate Receiver Stations
Column 17 lines 39-41.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions,...	Page 390 line 13 to page 556 line 32.	<i>See generally.</i>
		Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;

1981:Spec Reference	1981: Language	1987:Spec Reference	1987: Language
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Column 17 lines 42-43.	... identify and discriminate among one or more pieces of external equipment ...	Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus....
Column 17 line 43.	... to which such signals are addressed, ...	Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus....
Column 17 line 44.	... and transfer such signals to such equipment as directed.	Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ...
Column 17 lines 45-46.	This permits many valuable techniques for facilitating the operation of such external equipment.	Page 390 lines 26-29.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
Column 17 lines 47-49.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
Column 17 lines 49-53.	Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
Column 17 line 54.	Governing the Home or Office Environment	See generally page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)	Automating U. R. Stations ... Regulating Station Environment
Column 17 lines 55-56.	FIG 6A illustrates a method for governing a home or office environment.	Page 396 lines 31-33.	Fig. 7A illustrates methods for regulating automatically the environment of subscriber stations such as homes and offices.
Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.	Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.
Column 17 lines 62-64.	Signal processor, 200, is always operating and monitors all incoming channels.	Page 397 lines 17-20.	Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above;....
Column 17 lines 64-65.	It can convey such signals to microcomputer, 205, whenever it receives them.	Page 397 lines 22-26.	...and is preprogrammed at the controller, 39, of its decoder, 30, and at its controller, 12, to transfer to the decoder, 203, of the microcomputer, 205, of its station any detected SPAM message with an instance of particular URS-205 execution

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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			segment information...
Column 17 line 65 to Column 18 line 1.	TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating.	Page 401 lines 19-23.	(TV signal decoder, 203, has capacity, itself, to detect said ...SPAM message but only when TV set, 202, is on and operating and when the frequency of said master channel is the one TV channel transferred by box, 201, to TV set, 202.

XVIII. COLUMN 18

Column 18 lines 1-2.	Decoder, 203, transfers all received signals to processor or monitor, 204, ...	Page 400 lines 3-4 Page 35 lines 11-15 Page 35 lines 24-27 Page 35 lines 28-31	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39. ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.
Column 18 lines 2-4	... which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.
		Page 37 line 28 to page	Upon receiving any given instance of signal information,

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		38 line 8	<p>controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled)</p> <p>Automating U. R. Stations ... Coordinating a Stereo Simulcast</p>
Column 18 lines 4-7.	Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	Page 400 lines 19-22. Page 401 lines 14-17.	
Column 18 line 8.	Co-ordinating a Stereo Simulcast	See generally page 406 line 33 to page 419 line 31. (Page 406 line 33 quoted herein.) Page 406 lines 34-35.	
Column 18 lines 9-11.	FIG. 6B illustrates a method for automatic co-ordination of a multimedia presentation in one place, in this case a stereo simulcast.	Page 407 lines 9-11.	Fig. 7B illustrates automatic control of one kind of combined medium presentation--a stereo simulcast.
Column 18 lines 11-13.	A person decides to watch a program on television that is stereo simulcast on a local radio station, too.	Page 407 lines 12-15.	At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, Said subscriber switches power on to TV set, 202, and manually selects the proper channel, which is, for example, channel 13, at the television tuner, 215, of said set, 202,
Column 18 lines 13-14.	The person turns on television, 202, and tunes to the proper channel.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal.

1981:Spec Reference.	1981 Language	1987 Spec Reference	1987 Language
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Column 18 lines 17-19.	Monitor or processor, 204, determines that certain signals are addressed to switch, 212, and transfers these signals to switch, 212.	Page 408 lines 31-34. Page 95 lines 18-24.	Said message is detected at said decoder, 203, and inputted to said controller, 39, ... Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209. Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... , and to transfer said message to So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform. Receiving said SPAM message causes said controller, 44, switch power on to ... radio, 209,....
Column 18 lines 19-22.	These signals instruct switch, 212, to turn power on to radio, 209, and its associated equipment, including a conventional digital tuner, 213.	Page 410 lines 10-11.	Receiving said message causes said controller, 39, to execute particular preprogrammed controlled function instructions that cause said controller, 39, to transfer said message to the radio decoder, 210, of radio, 209.
Column 18 lines 22-24.	Monitor or processor, 204, also identifies signals addressed to tuner, 213, which it transfers accordingly.	Page 408 lines 31-34. Page 95 lines 18-24.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... , and to transfer said message to So transferring said message is the controlled function that the information said header and execution segment cause controller, 39, to perform. Receiving said SPAM message causes said controller, 44, ... to ... tune radio, 209, to the frequency,.... Thus switching power on to TV set, 202, and selecting channel 13 at television tuner, 215, are the only manual steps necessary to actuate the radio simulcast of said channel at radio, 209.
Column 18 lines 24-25.	These signals instruct tuner, 213, to tune radio, 209, to the proper frequency for the simulcast.	Page 410 lines 10-11.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
Column 18 lines 26-28.	Automatically, by turning TV set, 202, to the channel with a stereo simulcast, the person has activated the stereo simulcast.	Page 411 lines 6-9.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
Column 18 lines 29-30.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 411 lines 10-11 Page 88 lines 19-22.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that
Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and	Page 408 lines 18-29	

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	<p>210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,</p>	<p>Page 414 lines 13-27</p> <p>Page 15 lines 16-22</p> <p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p>	<p>consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
<p>Column 18 lines 35-36.</p>	<p>The processors, 204 and 210, transfer this information to signal processor, 200, ...</p>	<p>Page 411 lines 10-15.</p>	<p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p>

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		<p>Page 418 line 23 to page 419 line 31</p> <p>Page 36 lines 32-33.</p> <p>Page 38 lines 11-14.</p> <p>Page 173 line 30 to page 174 line 23.</p>	<p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")</p>
Column 18 lines 36-37.	...for recording and subsequent transmission to a remote data collection site.	<p>Page 411 line 28 to page 412 line 2.</p> <p>Page 419 lines 4-15.</p>	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is</p>

Appendix C

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
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	converter boxes, 222 and 201, and to signal processor, 200.		geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
Column 18 lines 52-55.	The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular AT&T news item in a particular Transmit-AT&T-News-Item message that is in said Transmit-News-Item SPAM message format and that consists of ... the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said AT&T news item , and an end of file signal.
Column 18 lines 55-56.	In a predetermined fashion, microcomputer, 205, instructs...	Page 288 lines 13-20.	As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 18 lines 56-58.	...signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 420 lines 6-20.	The signal processor, 200, of said station is preprogrammed ... with particular news- items-of-interest information that includes identification information of the particular stocks in said portfolio One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".
		Page 422 lines 33 to Page 423 line 4.	...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....

1987 Spec Reference	1987 Language	1987 Spec Reference	1987 Language
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Specification Correlation Chart

Column 18 lines 58-59.	Signal processor, 200, scans sequentially all channels.	Page 422 lines 23-25.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.
Column 18 lines 59-62.	When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13. Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmit particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, the to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
Column 18 lines 65-67.	...and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)

XIX. COLUMN 19

Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to	Page 419 line 34 to page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected
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1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
Specification Correlation Chart			
	play or record.		programming and information.
Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 11 lines 5-10. Page 428 lines 21-26.	The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
Column 19 lines 8-9.	Microcomputer, 205, is preinformed of the time of cablecasting.	Page 437 lines 1-3.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8-30 information to the controller, 20.
Column 19 lines 9-12.	When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on.	Page 444 lines 33-34.	...decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by....
Column 19 lines 12-13.	Microcomputer, 205, instructs signal processor, 200, to...	Page 288 lines 13-20.	As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 445 lines 8-10. Page 435 lines 16-18. Page 248 lines 22-26. Page 250 lines 13-16.	... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ... In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C.... Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2. Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week"

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			<p>program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) ...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the</p>
Page 252 lines 15-35.			
Page 267 lines 20-28.			
Page 288 lines 16-20.	Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts,...		
Column 19 lines 15-18.	...in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.		
Column 19 lines 18-20.			

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			<p>1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>By contrast, the...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that</p>
Page 435 lines 16-25.			
Page 267 lines 20-28.			
Page 435 lines 16-25.			
Page 436 line 9 to page 437 line 3.			
Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		

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			<p>contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p>
Column 19 lines 23-24.		<p>Page 439 lines 14-15.</p> <p>Page 437 lines 1-6.</p>	<p>...to receive the transmission of cable channel 13;...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p>
Column 19 lines 24-25.	...instruct tuner, 214, to switch box, 201, to channel X...	Page 439 lines 9-15.	<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>
Column 19 lines 25-27.	...and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week, " ...	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>...controller, 20, ... causes recorder/player, 217, to record</p>

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Column 19 lines 27-28.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	said information of the "Wall Street Week" program. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M,.... ...and to tune monitor, 202M, in a predetermined fashion.
Column 19 lines 28-29.	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
Column 19 line 30.	Co-ordinating Multimedia Presentations in Time	See generally page 447 line 25 to page 457 line 10.	Controlling Computer-based Combined Media Operations
Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.

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Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
Column 19 lines 37-39.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion.	Page 449 lines 26-35.	Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
Column 19 lines 39-41.	It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to...	Page 450 lines 31-32.	...caused his microcomputer, 205, to be preprogrammed as described above;...
Column 19 lines 43-44.	...instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-23.	Microcomputer, 205, is preprogrammed to ... respond ... to ...
Column 19 lines 45-46.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,...	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
Column 19 lines 46-48.	...several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 451 lines 6-7. Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ... Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said

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		Page 37 line 26 to page 38 line 8	second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."
		Page 451 lines 7-11.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
Column 19 line 53.	...upon command.	Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio

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XX. COLUMN 20

Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2. Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information. The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming. The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 428 lines 21-26.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. ...decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by
Column 19 lines 8-9.	Microcomputer, 205, is preinformed of the time of cablecasting.	Page 437 lines 1-3.	As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 19 lines 9-12.	When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on.	Page 444 lines 33-34.	... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ...
Column 19 lines 12-13.	Microcomputer, 205, instructs signal processor, 200, to...	Page 288 lines 13-20. Page 445 lines 8-10.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....
Column 19 lines 14-15.	...pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18. Page 248 lines 22-26.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.

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		<p>Page 250 lines 13-16.</p> <p>Page 252 lines 15-35.</p> <p>Page 267 lines 20-28.</p>	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) ...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal</p>
Column 19 lines 15-18.	Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts,...	Page 288 lines 16-20.	...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 19 lines 18-20.	...in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal

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	comparator, 14.	Page 267 lines 20-28.	<p>processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>
Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>By contrast, the...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment</p>
		Page 435 lines 16-25.	<p>Page 435 lines 16-25.</p>
		Page 436 line 9 to page 437 line 3.	<p>Page 436 line 9 to page 437 line 3.</p>

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			<p>of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted</i>. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p>
Column 19 lines 23-24.	Then, in a predetermined fashion, microcomputer, 205, may ...	<p>Page 439 lines 14-15.</p> <p>Page 437 lines 1-6.</p>	<p>...to receive the transmission of cable channel 13,...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13,....</p>
		Page 439 lines 9-15.	
Column 19 lines 24-25.	...instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.	<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>
		Page 439 lines 9-15.	<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13,....</p>

1981 Spec. Reference.	1981 Language.	1987 Spec Reference	1987 Language
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Column 19 lines 25-27.	...and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27. Page 446 lines 18-23.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,.... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
Column 19 lines 27-28.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M,....
Column 19 lines 28-29.	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	...and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
Column 19 line 30.	Co-ordinating Multimedia Presentations in Time	See generally page 447 line 25 to page 457 line 10.	Controlling Computer-based Combined Media Operations
Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27. page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations. (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30

1981 Spec. Reference	1981 Language	1987 Spec Reference	1987 Language
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Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	<p>PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)</p>
Column 19 lines 37-39.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion.	Page 449 lines 26-35.	<p>Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p>
Column 19 lines 39-41.	It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.
Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to...	<p>Page 450 lines 31-32.</p> <p>Page 21 lines 20-23.</p>	<p>...caused his microcomputer, 205, to be preprogrammed as described above;...</p> <p>Microcomputer, 205, is preprogrammed to ... respond ... to ...</p>
Column 19 lines 43-44.	...instruction signals embedded in the "Wall Street Week" programing transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.

	1987 Language	1987 Spec Reference	Specification Correlation Chart
Column 19 lines 45-46.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening....	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
Column 19 lines 46-48.	...several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4. Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...	Page 24 lines 5-16. Page 451 lines 7-11.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set." ...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
Column 19 line 53.	...upon command.	Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the	Page 25 lines 26-33.	During this time the program may show the so-called

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	Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		"talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 25 line 34-36.	At this point, an instruction signal is generated at said program originating studio,
Column 19 lines 62-63	... and is transmitted in the programming transmission.	Page 25 line 35 to page 26 line 1.	... embedded in the programming transmission, and transmitted.
Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...
		Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the

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			<i>Specification Correlation Chart</i>
			subscriber's own portfolio performance overlaid on the studio generated graphic.

XXI. COLUMN 21

Column 21 lines 1-2.	Using Signaling and Decryption Techniques to Control Distribution of Copyrighted Materials	<p>See generally page 278 line 22 to page 312 line 30. Especially, page 312 lines 12-28.</p> <p>See generally page 427 line 8 to page 447 line 23.</p> <p>See generally page 533 line 23 to page 556 line 32. Especially, page 548 line 1 to page 549 lines 31.</p>	Regulating the Reception and Use of Programming
Column 21 lines 3-8.	FIG 6E illustrates a signaling and decryption technique which could serve to facilitate the electronic distribution of copyrighted materials such as books and movies by tending to discourage piracy and the unauthorized retransmission of copies, whether they be properly acquired or pirated.	<p>Generally, page 312 lines 12-20.</p> <p>Page 306 lines 20-25.</p>	<p>And for example, the transmitted programming may be only audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television. And for example, the output apparatus may be speakers or one or more printers rather than a television monitor. And for example, rather than being a transmitter at a remote wireless or cable transmission station, the source of the transmission may be a local apparatus such as a video (or audio or digital information) tape recorder or a laser disc player, ...</p> <p>(By causing information that identifies the station at which encrypted information is decrypted to be so inserted, the present invention makes it possible to identify particular stations where their information is misused--for example, if pirated decrypted copies of information are distributed, the station at which decryption occurred can be identified....</p> <p>... Each farmer's laser disc player, 232, is loaded with a so-call "optical disk" on which is recorded a file named "PROPRIET.MOD" that contains encrypted information of a proprietary software module.</p>
Column 21 lines 9-19.	FIG 6E could be any home or commercial establishment but is described here as a book store. Using conventional laser videodisc equipment and techniques, well known in the art, a publisher has put his full line of books on laser discs in encrypted form and distributed one copy of each disc to each of his authorized book store retail outlets. He has also	<p>Page 534 lines 13-16.</p> <p>Page 548 lines 24-30.</p>	Automatically, under control of its specific received program

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	distributed to each a conventional computer floppy disk for use on conventional microcomputer, 205, that can operate conventional laser videodisc system, 232, in a predetermined fashion to locate and transmit individual titles in his line.		instruction set, each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station....
Column 21 lines 20-24.	A customer comes into the book store and asks to buy a title, hypothetically, <i>How to Grow Grass</i> . The salesman asks the customer for suitable identification, types into micro-computer, 205, the customer's name and address and that he wishes to purchase <i>How to Grow Grass</i> .	Page 548 lines 1-4.	Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program instruction set of said message at the microcomputer, 205,....
Column 21 lines 25-26.	Microcomputer, 205, may check to determine that the customer has no record as a pirate...	Page 549 line 19-21 Page 16 lines 24-26. Page 293 lines 24-35.	Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates.... A match indicates that said sixteen contiguous bit locations that hold preprogrammed SPAM operating information are preprogrammed with properly. A match occurs at the station of Fig 4. (Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion--.... ... each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station....
Column 21 lines 26-30.	... then transfers his name and address to buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, and instructs laser videodisc system, 232, to transmit its encrypted copy of <i>How to Grow Grass</i> to printer or other means, 221,....	Page 548 lines 25-30.	Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file.
Column 21 lines 30-32.	... via decryptors, 224 and 231. Laser system, 232, transmits one copy of the encrypted title to decryptor, 224, ...	Page 549 line 19-21. Page 299 lines 19-22.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to

Specification Correlation Chart

Column 21 lines 32-34	...and one to signal processor, 200, for processing and evaluation.	Page 297 lines 20-33.	<p>decryptor, 224, thereby causing said decryptor, 224,....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW- programming information, particular meter-monitor information, particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J, to select the information of the execution segment in said message and determine that said selected information matches the aforementioned instance of enable-WSW-programming information at said particular controlled-function-invoking information location. So determining a match causes said control processor, 39J, to execute the aforementioned transfer-this- message-to-controller-20 instructions.</p> <p>Each farmer has a subscriber station that is identical to the station of Fig. 7 except that each station has two television recorder/players that are recorder/players, 217 and 217A; two television tuners, 215 and 215A; and a laser disk player, 232. Particular farm information of the specific farm of each farmer is recorded in a file named MY_FARM.DAT on a disk at the A: disk drive of the microcomputer, 205, of each station.</p> <p>Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.</p>
Column 21 lines 35-36.	In the encrypted title, signal processor, 200, identifies one or more signal words.	Page 297 line 30 to page 298 line 5.	
Column 21 lines 36-38.	If signal processor, 200, has the customer's name and address and the bookstore is a retail outlet in good standing...	Page 534 lines 1-8.	
Column 21 lines 38-40.	...that has received from a remote site program information on the predetermined fashions in affect,...	Page 298 lines 10-21.	

Specification Correlation Chart

				Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
Column 21 lines 40-43.	...signal processor, 200, decrypts the signal word or words and transfers them to decryptor, 224, to serve as the code for the first stage of decryption.		Page 299 lines 13-22.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224....
Column 21 lines 44-45.	Decryptor, 224, then decrypts a part of the encrypted transmission...		Page 299 lines 22-27.	...thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.
Column 21 lines 45-46.	...and passes the partly decrypted transmission to signal stripper, 229, and signal generator, 230.		Page 305 lines 22-32.	...to commence transferring the information inputted from said converter box, 201, to the output that outputs to television tuner, 215; to commence transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231....
Column 21 lines 46-51.	In the decrypted portion of the partially decrypted transmission, signal processor, 200, identifies a second signal word or set of words which it decrypts in a predetermined fashion and passes to decryptor, 231, to serve as the code basis for the second stage of decryption.		Page 304 lines 10-11. Page 304 line 23 to page 307 line 8.	(Hereinafter, each of said SPAM messages is called a "2nd-WSW-program-enabling-message (#7).") Automatically, decryptor, 39K, decrypts the encrypted information of said message and transfers said message to EOFS valve, 39H. Automatically, EOFS valve, 39H, inputs the information of said message, unencrypted, to control processor, 39J, until the end of file signal of said message is detected. Automatically, control processor, 39J, determines that the unencrypted information of the execution segment of said message matches the aforementioned instance of enable-WSW-programming information at said particular

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			<p>controlled-function-invoking information location and executes the aforementioned transfer-this-message-to-controller-20 instructions.</p> <p>Executing said instructions causes the transfer of the remove.) Automatically, controller, 20, selects information of the aforementioned first three of the last four significant digits of the binary information of the aforementioned unique digital code at ROM, 21 and computes a particular Q quantity according to a particular formula that is preprogrammed in said 2nd-stage-enable-WSW-program instructions. ... The information of said Q quantity is the decryption key Aa.</p>
Column 21 lines 51-53.	Signal processor, 200, also may instruct signal stripper, 229, to remove this second signal word or words.	Page 305 line 34 to page 306 line 4.	Automatically, controller, 20, causes signal stripper, 229, to strip information, in a fashion well known in the art, from a particular strip-designated portion of the video transmission received at said stripper, 229, and transfer the received video, without said stripped information, to matrix switch, 258.
Column 21 lines 53-63.	Signal processor, 200, also passes the customer's name and address and its own unique apparatus identifier code from read only memory, 21, to signal generator, 230, which generates a signal embedding the customer's name and address and the retail outlet's identification in the programming in a suitable place or places in a suitable fashion. (Signal processor, 200, may also transmit the customer's name and address to printer or other means, 221, for actual printing of the customer's name and address in the text.)	Page 306 lines 11-19.	Automatically, controller, 20, selects complete information of the aforementioned unique digital code at ROM, 21, transmits said complete information to signal generator, 230, and causes said generator, 230, to insert said complete information, in a predetermined periodic fashion and in an inserting fashion well known in the art, into a particular insertion-designated portion of the video transmission received at said generator, 230, and to transfer the received video, with said inserted information, to matrix switch, 258.
Column 21 lines 63-65.	The transmission then passes through decryptor, 231, which completes the decryption process...	Page 305 lines 29-31, and lines 14-16.	...to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231;...
Column 21 lines 65-66.	...and passes the decrypted programing transmission to printer or other means, 221,...	Page 309 line 27 to page 310 line 3.	...and to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission.
			Determining that signal stripper, 229, and that signal generator, 230, are stripping and inserting correctly (after having determined that that decryptors, 224 and 231, are decrypting correctly) causes the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the

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			decrypted ... information ... to microcomputer, 205, ... And for example, the transmitted programming may be only audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television.
Column 21 lines 66-67.	...and also to signal processor, 200.	Page 312 lines 12-14. Page 305 lines 31-34.	...and to commence transferring the information inputted from decryptor, 231, to the output that outputs to said third alternate contact of switch, 1. Receiving said signal causes controller, 20, under control of said 2nd-stage-enable-WSW-program instructions, to cause said control processor, 39J, to transfer to controller, 20, selected information of said check sequence; to compare said selected information to selected information of said 2nd-stage-enable-WSW-program instructions; and to determine that a match results, indicating that decryptors, 224 and 231, are decrypting received information correctly. Determining a match causes controller, 20, to determine, in a predetermined fashion, that signal stripper, 229, is correctly stripping information from the aforementioned strip-designated portion of the video transmission and transferring received video without said stripped information and that signal generator, 230, is correctly inserting complete information of the aforementioned unique digital code into the aforementioned insertion-designated portion of the video transmission and transferring received video with said inserted information.
Column 21 line 67 to column 22 line 2.	Signal processor, 200, receives and analyzes the signal content of the programming output of decrypter, 231 to ensure that stripper, 229, and and generator, 230, have functioned properly.	Page 308 lines 13-30.	

XXII. COLUMN 22

Column 22 lines 2-4.	If they have not, signal processor, 200, shuts down the decryption of the title and prevents its delivery to the customer.	Page 308 line 31 to page 309 line 11.	(Simultaneously other stations compare selected information of said check sequence to selected informations of said 2nd-stage-enable-WSW-program instructions and verify the correct functioning of local signal strippers, 229, and generators, 230. At each station where a controller, 20, determines that a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--or determines that a stripper, 229, or a generator, 230, fails to function correctly, so determining match causes said controller, 20, to cause all information of
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1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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Column 22 line 5	The General Case		said 2nd-WSW-program-enabling-message (#7) to be erased from all memory of said station except for a particular portion of said 2nd-stage-enable-WSW-program instructions loaded at the RAM of said controller, 20,.... A Summary Example #11 ... and the General Case
Column 22 lines 6-15.	It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. FIG 6 should make this clear. The receiver site depicted in FIG 6 has multiple means for receiving programing transmissions. All received programing is analyzed and evaluated by signal processor, 200.	See generally page 533 line 23 to page 557 line 32. Page 556 line 33 to page 557 line 32.	It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts or in the methods of their functioning without functionally departing from the spirit of the invention. Any SPAM message and any other programming transmission can be caused, through encryption/decryption and other SPAM regulating techniques of the present invention, to take affect fully only selected stations and station apparatus. Because any transmission station can invoke any SPAM controlled function by transmitting a SPAM message with meter-monitor segment information, invoking any given SPAM controlled function can also cause meter information and or monitor information to be processed in the fashions described above at apparatus and stations where said controlled function is invoked. Intermediate transmission stations can be equipped with SPAM regulating capacity such as that illustrated in Fig. 4, monitoring capacity such as that illustrated in Fig. 5, and control information switching and bus communications capacity such as that illustrated in Figs. 7 and 8. Controlling such capacity by means of transmitted SPAM messages, a remote network origination and control station can transmit programming to intermediate transmission stations, regulate and meter the use of said programming at said stations, monitor the use and usage of said programming at said stations, and control communication of control information at said stations all in the fashions that apply above to ultimate receiver stations. And any given transmission station can cause its receiver stations to function automatically not only in the fashions described above in the sections on automating ultimate receiver stations but in any appropriate fashion that a network origination and control station can cause intermediate transmission stations to function automatically.

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Column 22 lines 15-20.	Working with microcomputer, 205, which is preprogrammed to present received programming in predetermined fashions determined at the receiver site, signal processor, 200, permits and facilitates such presentations in accordance with the intentions of the suppliers of the programming at remote sites.	Page 428 line 21 to page 429 line 17.	<p>The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. In a predetermined fashion, said subscriber has caused to be included in said program-unit-of-interest information. (Microcomputers, 205, of selected other stations of said large plurality of stations are also so preprogrammed.) The station-specific-television-program-selection-and-display instructions at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular information that said subscriber will pay up to a certain limit--for example, twenty-five cents--to be permitted to receive said program and that, if the TV set, 202, of said station is switched off when information of the transmission of said program is detected, power should be switched on to said TV set, 202, and said program should be displayed at the monitor, 202M, of said set and, in addition, power should be switched on to the video recorder/player, 217, of said station, and said program should be recorded at said recorder/player, 217.</p> <p>The signal processor, 200, of said station scans sequentially all received television transmission channels in the fashion described above and is preprogrammed at the RAM associated with the control processor, 39J, of its decoder, 30, to respond in a particular controlled function fashion whenever a SPAM message with an execution segment of particular available-television-program information is detected. Said signal processor, 200, has capacity for actuating and tuning TV set, 202, and video recorder, 217, and for controlling microcomputer, 205.</p> <p>Automatically, controller, 20, transmits particular information to said decoder, 145, that causes said decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by transmitting particular 202M-is-not-on information to controller, 20, via said link.</p> <p>The fact that monitor, 202M, is not on signifies that the subscriber of the station of Fig. 7 is not viewing television information at monitor, 202M, and suggests that said subscriber may not even be present at said station.</p>
Column 22 lines 20-24.	Working together, signal processor, 200, and microcomputer, 205, can control all local equipment and manage local presentations in any fashion feasible given the nature of the local equipment and the programming.	Page 444 line 31 to page 445 line 22.	

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			<p>Receiving said 202M-is-not-on information causes controller, 20, under control of said additional 2nd-stage-enable-WSW-program instructions, to cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, which instructions reflect the the specific fashion in which said subscribe wants any given selected program to be selected and displayed. Automatically, controller, 20, inputs a particular choose-mode-of-selection-and-display instruction and said 202M-is-not-on information to microcomputer, 205, and receiving said instruction and said information causes microcomputer, 205, in a predetermined fashion, to process the aforementioned station-specific-television-program-selection-and-display instructions. Automatically, under control of said instructions, microcomputer, 205, inputs to controller, 20, particular preprogrammed display-at-202M-and-record-at-217 instructions.</p>

APPENDIX D

**GLOSSARY OF DEFINED TERMS
TO THE 1987 PRIORITY INSTANT SPECIFICATION**

GLOSSARY OF DEFINED TERMS

1987 Priority U.S. Patent Application

The following terms are defined and used in specific ways in U.S. Patent No. 4,965,825 and its continuations, including Applicants' instant specification. Terms that appear at the left margin in quotation marks are formally defined in the patent disclosures. The meanings of terms that are shown below without quotation marks are made clear in the context in which they appear.

A

B

"broadcast" ... page 12 line 22 ... to transmit programming over-the-air.

"broadcast print" ... page 1 line 25 ... Radio and electronic print services such as stock brokers' so-called "tickers" and "broad tapes" are ... powerful, user friendly mass media. (Hereinafter, the electronic print mass medium is called, "broadcast print.")

C

cadence information ... page 60 line 12 ... Cadence information which consists of headers, certain length tokens, and signals that are called "end of file signals" enables subscriber station apparatus to distinguish each instance of header information in any given message stream and, hence, to distinguish the individual messages of said stream. In the present invention, subscriber station apparatus are preprogrammed to process cadence information.

"cablecast" ... page 12 line 23 ... to transmit programming over hard-wire.

"combined" media ... page 2 line 17 ... Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)

"combining synch command" ... page 26 line 20 ... (Hereinafter, an instruction such as the above

signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)

command ... page 44 line 12 ... As Fig. 2E shows, [a] header and execution and meter-monitor segments constitute [one form of] a command.

A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.

A command is always constituted of at least a header and an execution segment. With respect to any given command, its execution segment contains information that specifies the apparatus that said command addresses and specifies a particular function or functions that said command causes said apparatus to perform. (Hereinafter, functions that execution segment information causes subscriber station apparatus to perform are called "controlled functions.")

Commands often contain meter-monitor segments. ...

...

... page 47 line 11 ... Commands can address many apparatus and execute many controlled functions.

"control invoking instructions" ... page 23 line 24 ... see "invoking broadcast control"

"controlled functions" ... page 44 line 22 ... (Hereinafter, functions that execution segment information causes subscriber station apparatus to perform are called "controlled functions.")

...

... page 46 line 8 ... Examples of controlled functions include:

Load and run the contents of the information segment.

Decrypt the execution segment using decryption key G.

Decrypt the execution and meter-monitor segments using decryption key J.

Commence the video overlay combining designated in the meter-monitor segment.

Modify the execution segment to instruct URS microcomputer, 205, to commence overlay designated in meter-monitor segment, record the contents of the execution and meter-monitor segments, and transfer command to URS microcomputer, 205.

Print the contents of the information segment.

Record the contents of the execution and meter-monitor segments; transfer them to URS decryptors, 224, and execute the preprogrammed instructions that cause URS decryptors, 224, to commence decrypting with said contents as decryption key; execute preprogrammed instructions that cause URS cable converter boxes, 222, to switch to cable channel Z; execute preprogrammed instructions that cause URS matrix switches, 258, to configure its switches to transfer the input from converter boxes, 222, to decryptors, 224, and the output from decryptors, 224, to microcomputers, 205; modify the execution segment to instruct URS microcomputers, 205, to commence loading and executing the information received from URS decryptors, 224 via URS switches, 258.

"controller, 39" ... page 156 line 26 ... More precisely, controller, 39, of decoder, 203, and SPAM-controller, 205C, are one and the same (and are called, hereinafter, "controller, 39"). Thus the preferred embodiment of controller, 39, is configured and preprogrammed not only to control the detecting, correcting, converting, and executing of controlled functions at decoder, 203, but also to input to and execute at microcomputer, 205, the information of any given detected SPAM message that is addressed to URS microcomputers, 205.

"covert control" ... page 218 line 6 ... By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")

"covert control-invoking value" ... page 285 line 7 ... (Hereinafter, the normal binary value of a given instance of information that invokes a preprogrammed function--such as, for example, the "100110" that is the normal value of said execute-conditional-overlay-at-205 information--is called a "standard control-invoking value", and a value that temporary replaces a standard control-invoking value in the course a covert control application-- such as "111111" in example #6--is called a "covert control-invoking value".)

"CPU" ... page 22 line 33 ... central processor unit ... also defined at page 87 line 21 as ... central processor unit

D

"data module set" ... page 365 line 24 ... (Hereinafter, a data module that is transmitted to subscriber stations and processed by computers of said stations under control of instructions of a

program instruction set is called a "data module set,"
"data module set of Q" ... page 366 line 18 ... (Hereinafter, the data module set generated in example #9, under control of said intermediate generation set of Q, is called the "data module set of Q".)
"data module set of Q.1" ... page 378 line 31 ... (Hereinafter, the data module set generated at the station of Fig. 6 in example #10 is called the "data module set of Q.1", signifying that said set is one version of complete data module set information of said instance of the network transmission of Q.)
"data module set of Q.2" ... page 380 line 33 ... [Hereinafter, the data module set generated at said second station is called the "data module set of Q.2", signifying that said set is a second version of complete data module set information of said instance of the network transmission of Q.])

E

end of file signals ... page 62 line 26 ... distinctive end of file signals are required to communicate the locations of the ends of information segments to subscriber station apparatus. In the present invention, each end of file signal is transmitted immediately after the end of an information segment; said signal is part of the information of the message in which said segment occurs; and said signal is located at the end of said message.

At any given time, subscriber station apparatus are preprogrammed to process only one distinct signal as an end of file signal. In order for said apparatus to distinguish an instance of said signal from all other signal information, an end of file signal must differ distinctly from all other information. Signal information, especially information transmitted in an information segment, can vary greatly in composition. Accordingly, to be distinctive, an end of file signal must be long and complex to detect.

An end of file signal consists of a particular sequence of bits of binary information. In the preferred embodiment each bit is identical to every other bit; that is, disregarding error correction information, an end of file signal consists of a sequence of "1" bits (eg. "11111111") or "0" bits (eg. "00000000"). In the preferred embodiment, end of file signals are composed of "1" bits rather than "0" bits.

see EOFS, EOFS bit and MOVE bit

EOFS ... refers to End Of File Signal ... see end of file signals

"EOFS bit" ... page 64 line 1 ... An end of file signal consists of a particular sequence of bits of binary information. In the preferred embodiment each bit is identical to every other bit; that is, disregarding error correction information, an end of file signal consists of a sequence of "1" bits (eg. "11111111") or "0" bits (eg. "00000000"). In the preferred embodiment, end of file signals are composed of "1" bits rather than "0" bits. Zero is a value that occurs frequently in data and in mathematics, and however many bits may occur in a binary data word that consists of a series of "0" bits, the numeric value of said word remains zero.

Numeric values that are represented in binary form by a sequence of "1" bits, especially a sequence that is long, occur in data and mathematics far less frequently than zero. Thus the preferred composition bit is "1" because the chance of data being joined in a given signal in such a way that two or more instance of information combine inadvertently and create the appearance of an end of file signal is far smaller if the preferred bit is "1" than if it is "0". (Hereinafter, the preferred binary end of file signal composition bit, "1", is called an "EOFS bit," and for reasons that are explained below, the alternate binary bit, "0", is called a "MOVE bit.")

"EOFS Complete Flag" ... page 69 line 10 ... see EOFS valve components

"EOFS Empty Flag" ... page 69 line 10 ... see EOFS valve components

"EOFS Standard Length Location" ... page 69 line 10 ... see EOFS valve components

"EOFS Standard Word Location" ... page 69 line 10 ... see EOFS valve components

"EOFS valve" ... page 65 line 19 ... an apparatus, called an "EOFS valve," that detects end of file signals

EOFS valve components ... page 69 line 10 ... In the present invention, any microprocessor, buffer/comparator, or buffer can be adapted and preprogrammed to detect end of file signals. At any given SPAM apparatus that is so adapted and preprogrammed, particular dedicated capacity exists for said detecting. Said capacity includes standard register memory or RAM capacity, well known in the art, including three particular memory locations for comparison purposes, one particular memory location to serve as a counter, and three so-called "flag bit" locations to hold particular true/false information. (Hereinafter, said three particular memory locations, said one particular memory location, and said three flag bit locations are called the "EOFS Word Evaluation Location," "EOFS Standard Word Location," and "EOFS Standard Length Location"; the "EOFS WORD Counter"; and the "EOFS WORD Flag," "EOFS Empty Flag," and "EOFS Complete Flag" all respectively.)

"EOFS WORD" ... page 70 line 12 ... (Hereinafter, one signal word of EOFS bits is called an "EOFS WORD.")

"EOFS WORD Counter" ... page 69 line 10 ... see EOFS valve components

"EOFS Word Evaluation Location" ... page 69 line 10 ... see EOFS valve components

"EOFS WORD Flag" ... page 69 line 10 ... see EOFS valve components

"EPROM" ... page 33 line 17 ... erasable programmable ROM [or other forms of programmable nonvolatile memory]

execution segment ... page 45 line 22 ... Execution segment information includes the subscriber station apparatus that the command of said segment addresses and the controlled functions said apparatus is to perform. ("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.) [Some] examples of addressed apparatus include:

ITS signal processors (in 71 in Fig. 6),
ITS controller/computers (73 in Fig. 6),
URS signal processors (200 in Fig. 7),
URS microcomputers (205 in Fig. 7),
URS printers (221 in Fig. 7), and
URS utilities meters (262 in Fig. 7).

... page 47 line 16 ... Execution segment information operates by invoking preprogrammed operating instructions that exist at each subscriber station apparatus that is addressed. ... [see controlled function]

For each appropriate addressed apparatus and controlled function combination a unique execution segment binary information value is assigned. ...

For any given command, the execution segment information of said command invokes, at each relevant subscriber station apparatus, the preprogrammed operating instructions uniquely associated with its particular binary value in particular comparing and matching fashions that are described [extensively.]

The determination of appropriate addressed apparatus and controlled function combinations takes into account the facts that different apparatus, at any given subscriber station, can be preprogrammed to interpret any given instance of execution segment information differently and that subscriber station apparatus can be preprogrammed to automatically alter execution segment information. ...

...

... page 49 line 16 ... In the preferred embodiment, at any given time the number of binary information bits in any given instance of execution segment information is a particular constant number. [see "X."]

F

"field" ... page 50 line 28 ... see "meter-monitor field."

first combining synch command ... page 89 line 8 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

The first message is of the information associated with the first combining synch

command. [See page 23 line 35 through page 24 line 16 of the specification as well as "combining synch command" above.] Said first command has a "01" header, an execution segment, and a meter-monitor segment of six fields. Said command is followed by an information segment that contains said program instruction set, and said information segment is followed by an end of file signal. Said first command addresses URS microcomputers, 205, and causes said computers, 205, to load and run the program instruction set transmitted in the information segment. Each meter-monitor segment field of said command contains information that identifies one of the following:

- . the origin of said "Wall Street Week" transmission,
- . the subject matter of said "Wall Street Week" program,
- . the program unit of said program,
- . the day of said transmission within a particular one hundred year period,
- . the supplier of the program instruction set in the information segment following said first combining synch command, and
- . the format of said meter-monitor segment information.

G

"guide commands ... page 267 line 26 ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) By contrast, the 1st-, 2nd-, and 3rd-old-program-message (#5) messages, the 2nd-new-program-message (#5), and the 1st-old-radio-program- message (#5) inform no station control apparatus of new programming transmissions because said commands are addressed to no apparatus; the execution segment of each is the aforementioned pseudo-command. (Hereinafter, each said signal is called a "transparent command" because no subscriber station control apparatus "sees" said signal.)

H

"H" ... page 95 line 30 ... a particular preprogrammed constant number of the first converted bits of said binary information. Said constant number is the number of bits in a SPAM command header. (Hereinafter, said constant number is called "H".)

"H+X" ... page 127 line 13 ... At any given time, any given instance of "10" header message command information is of one constant binary length--the aforementioned header+exec constant length. (Hereinafter, said length is called "H+X" and is the sum of H plus X.)

"H+X+L" ... page 110 line 16 ... a particular preprogrammed constant number that is the sum of H plus X plus L to the x-bits information at said SPAM-length-info memory. (Hereinafter, said constant is called "H+X+L".)

header ... page 45 line 4 ... In simple preferred embodiments, at any given time the number of binary information bits in any given instance of header information is a particular constant number. In other words, every header contains the same number of bits. In the simplest preferred embodiment, said constant number is two, all headers consist of two bits binary information, and commands are identified by one of three binary headers:

10 - a command with an execution segment alone;

00 - a command with execution and meter-monitor segments; and

01 - a command with execution and meter-monitor segments that is followed by an information segment.

... page 54 line 12 ... In the simplest preferred embodiment, a fourth type of header is:

11 - an additional information segment transmission following a "01" header command and one or more information segments which additional segment is addressed to the same apparatus and invokes the same controlled functions as said "01" command.

I

information segment ... page 53 line 33 ... Information segments follow commands and can be of any length. Program instruction sets, intermediate generation sets, other computer program information, and data (all of which are organized in a fashion or fashions well known in the art) are transmitted in information segments. An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art. Commands can execute such program information and cause compiling prior to execution.

"intermediate generation sets" ... page 42 line 8 ... (Hereinafter, instances of computer program information that cause intermediate transmission station apparatus to generate program instruction set information and/or command information are called "intermediate generation sets.") ... see also "program instruction set" ... "intermediate generation set" is also defined at page 356 line 13 as ... (Hereinafter, an instance of computer program instructions that cause a computer, at an intermediate transmission station, to generate information of a program instruction set is called an "intermediate generation set.")

"intermediate generation set of Q" ... page 359 line 9 ... (Hereinafter, the intermediate generation set that causes any given intermediate transmission station to generate a program instruction set of an instance of the transmission of the programming of program unit Q is called the "intermediate generation set of Q".)

"intermediate transmission stations" ... page 40 line 33 ... (Hereinafter, ... stations that receive and retransmit broadcast transmissions are called "intermediate transmission stations", ...

"interval," as in "interval Q" of unit Q ... page 355 line 26 ... When the aforementioned remote distribution station inputs information to computer, 73, via network, 98, regarding unit Q, said distribution station inputs information that Q is particular combined medium programming and instructs computer, 73, to commence particular program instruction set generation in a particular fashion at a particular time interval prior to the scheduled playing of Q. (Hereinafter, a particular instance of such a time period is called "interval," as in "interval Q" of unit Q.)

"invoking broadcast control" ... page 23 line 25 ... Operating in said preprogrammed fashion under control of said first set of instructions, microcomputer, 205, reaches a stage at which the subscriber can input information only under control of signals embedded in the broadcast transmission and can reassume control of microcomputer, 205, ... only by executing a system reset (or so-called "warm boot") which on an IBM PC is accomplished by ... (Hereinafter, this first set of instructions is called the "control invoking instructions," and the associated steps are called "invoking broadcast control.")

"ITS" ... page 45 line 25 ... refers to intermediate transmission station apparatus.

J

K

L

"L" ... page 103 line 4 ... a third preprogrammed constant number of next bits and record said bits at particular memory. Said third constant number is the particular number of bits in an

instance of SPAM meter-monitor format field length token information. (Hereinafter, said third constant number is called "L".)

"length token" ... page 52 line 5 ... each instance of a meter-monitor segment includes a format field that contains information that specifies the particular format of the meter-monitor segment of said instance. Within said field is a particular group of binary information bits (hereinafter, the "length token") that identifies the number of bits in a meter-monitor segment of said format. Each alternate length token has a unique binary information code. The number of information bits in each instance of a length token is the smallest number of bits capable of representing the binary value of the total number of meter-monitor segment bit length alternatives. And the unique code of each different alternative is within the range of binary numbers thus defined.

...

... page 53 line 20 ... In the preferred embodiment, the bits of the length token are the first bits in each meter-monitor segment. ...

M

"message" ... page 59 line 24 ... All of the information transmitted with a given header is called a "message." Each header begins a message, and each message begins with a header. More specifically, a message consists of all the SPAM information, transmitted in a given transmission, from the first bit of one header to the last bit transmitted before the first bit of the next header.

A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.

"meter command" ... page 48 line 33 ... The preferred embodiment includes ... one command that is addressed to URS signal processors, 200, (hereinafter, the "meter command") but does not instruct said processors, 200, to perform any controlled function. [This command is] always transmitted with meter-monitor segment data that receiver station apparatus automatically process and record. By transmitting ... meter command signals, transmission stations cause receiver station apparatus to record meter-monitor segment information without executing controlled functions. ... The meter command causes apparatus such as controller, 12, of Fig. 2D to transmit meter information to buffer/comparator, 14, without performing any controlled function.

"meter-monitor field" ... page 50 line 28 ... For each category of [meter information and/or monitor] information, a series of binary bits (hereinafter, a "field" or "meter-monitor field") exists in the meter-monitor segment to contain the [category] information.

meter-monitor segments ... page 44 line 26 ... contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described [in many places of the disclosure, especially examples #3, #4 and #5.

...

... page 49 line 27 ... Examples of categories of [meter information and/or monitor] information include:

- meter instructions that instruct subscriber station meter apparatus to record particular meter-monitor segment information and maintain meter records of said information;

- origins of transmissions (eg., network source stations, broadcast stations, cable head end stations);

- dates and times;

- unique identifier codes for each program unit (including commercials);

- codes that identify uniquely each combining in a given combined medium program unit; codes that identify the subject matter of a program unit;

- unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals); and

- unique codes that identify the sources and suppliers of computer data.

For each category of information, a series of binary bits (hereinafter, a "field" or "meter-monitor field") exists in the meter-monitor segment to contain the information. In any given category such as origins of transmissions, each distinct item such as each network source, broadcast, or cable head end station has a unique binary information code. In the preferred embodiment, the number of information bits in that category's meter-monitor field is the smallest number of bits capable of representing the binary value of the total number of distinct items. And the information code of each distinct item is within the range of binary numbers thus defined. In the preferred embodiment, date and time fields have sixteen bits.

Few commands require meter-monitor information of every information category. Often commands require no more than the identification codes of a specific combined medium program unit and of a specific combined medium combining within said program unit.

Because the amount of information in meter-monitor segments varies from command

to command, in the preferred embodiment more than one format exists at any given time for meter-monitor segment information. ...

Because the number of categories of meter-monitor information varies from one command to the next, the length of meter-monitor segments varies. ...

In the preferred embodiment, each instance of a meter-monitor segment includes a format field that contains information that specifies the particular format of the meter-monitor segment of said instance. Within said field is a particular group of binary information bits (hereinafter, the "length token") that identifies the number of bits in a meter-monitor segment of said format. ...

In the preferred embodiment, each distinct meter-monitor segment format (including each distinct field format) also has a unique binary information code. ...

...

In the preferred embodiment, the bits of the length token are the first bits in each meter-monitor segment. ...

"MMS" ... page 104 line 7 ... (Hereinafter, the exact number of bits in any given meter-monitor segment is called, "MMS".)

"MMS-L" ... page 103 line 29 ... (Hereinafter, the number of the particular selected bit-length-number alternative associated with any given length token is called "MMS-L" to signify that said number is L bits less than the number bits in the meter-monitor segment in which said length token occurs.)

"MOVE bit" ... page 64 line 1 ... see "EOFS bit"

N

"normal transmission location" ... page 86 line 12 ... (Hereinafter, the preferred normal location for transmitting signals in any given communication medium is called, the "normal transmission location".)

"null outputs" ... page 159 line 10 ... Among such other outputs is one or more (hereinafter called, "null outputs") with capacity for accepting binary information and merely recording said information at particular memory associated with matrix switch, 39I, thereby overwriting and obliterating information previously recorded at said memory. The purpose of such a null output is to provide means whereby said switch can automatically cause information of any selected SPAM message to be discarded rather than transferred to addressed apparatus.

O

"original transmission stations" ... page 40 line 31 ... (Hereinafter, stations that originate broadcast

transmissions are called "original transmission stations," ...

P

"padding bits" ... page 55 line 22 ... particular bits are added at the end of any command that is not already a multiple of the particular signal word bit length that applies in signal processor system communications at the subscriber stations to which said transmission is transmitted. (Hereinafter, said bits are called "padding bits.") Padding bits communicate no command information nor are padding bits part of any information segment. The sole purpose of padding bits is to render the information of any given SPAM command into a bit length that is, by itself, complete for signal processor system communication. Padding bits are added to command information prior to the transmission of said information at said station, and all subscriber station apparatus are preprogrammed to process padding bits. The particular number of padding bits that are added to any given command is the smallest number of bits required to render the bit length of said command into a multiple of said signal word bit length.

"pre-transmission evaluation" ... page 65 line 29 ... To prevent such erroneous processing, in the preferred embodiment, after the initial generation of any given instance of SPAM message information (not including end of file signal information) and before the embedding and transmitting of said instance, said information is transmitted through an apparatus, called an "EOFS valve," that detects end of file signals and is described below. If said valve detects in said information particular information that constitutes an end of file signal, before being embedded and transmitted, the binary information of said instance is rewritten, in a fashion well known in the art that may be manual, to cause substantively the same information processing at subscriber stations without containing an instance of information that is identical to the information of an end of file signal. (Hereinafter, such pre-transmission processing of a message is called a "pre-transmission evaluation.")

"program instruction set" ... page 24 line 16 ... a ... set of [processing] instructions [conveyed in the information segment of a SPAM message] that is loaded and run [at receiver station (including ITS) computing apparatus] ... [at page 42 line 2, the meaning of "program instruction sets" is further defined as ->] (Hereinafter, instances of computer program information that cause ultimate receiver station apparatus to generate and display user specific information are called "program instruction sets.") ... [see also "intermediate generation set"]

"program instruction set of Q" ... page 365 line 18 ... (Hereinafter, the program instruction set generated in example #9, under control of said intermediate generation set of Q, is called the "program instruction set of Q".)

"program instruction set of Q.1" ... page 378 line 23 ... (Hereinafter, the program instruction set generated at the station of Fig. 6 in example #10 is called the "program instruction set of

Q.1", signifying that said set is one version of complete program instruction set information of said instance of the network transmission of Q.)

"program instruction set of Q.2" ... page 380 line 20 ... [Hereinafter, the program instruction set generated at said second station is called the "program instruction set of Q.2", signifying that said set is a second version of complete program instruction set information of said instance of the network transmission of Q.]

"program originating studio" ... page 20 line 29 ... (Hereinafter, a studio or station that originates the broadcast transmission of programming is called the "program originating studio.")

"program unit identification code" ... page 90 line 1 ... (Hereinafter, meter-monitor information that identifies the program unit of a given program may also be called the "program unit identification code".)

"programming" ... page 11 line 7 ... The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.

"pseudo command" ... page 48 line 31 ... The preferred embodiment includes one appropriate command (hereinafter called the "pseudo command") that is addressed to no apparatus ... [This command is] always transmitted with meter-monitor segment data that receiver station apparatus automatically process and record. By transmitting pseudo command ... signals, transmission stations cause receiver station apparatus to record meter-monitor segment information without executing controlled functions. The pseudo command enables a so-called ratings service to use the same system for gathering ratings on conventional programming transmissions that it uses for combined media without causing combined media apparatus to execute controlled functions at inappropriate times (eg., combine overlays onto displays of conventional television programming).

Q

R

"RAM" ... page 23 line 1 ... random access memory

"revoking broadcast control." ... page 513 line 25 ... the steps associated with returning a microcomputer, 205, from broadcast control to local control are called "revoking broadcast control."

"ROM" ... page 31 line 9 ... read only memory

S

second combining synch command ... page 89 line 3 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

...
... page 90 line 4 The second message is of the information associated with the second combining synch command. [See page 25 line 34 through page 26 line 8 of the specification as well as "combining synch command" above.] Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205. Said second command causes said computers, 205, to combine the Fig. 1A information of each microcomputer, 205, with the information of Fig. 1B and transmit the combined information to monitors, 202M. Each meter-monitor segment field of the second command contains information of one of the following:

- . the subject matter of said "Wall Street Week" program,
- . the program unit of said program,
- . the unique code of said overlay given said program unit information,
- . the minute of said transmission within a particular one month period, and
- . the format of said meter-monitor segment information.

segment ... page 44 line 4 ... Fig. 2E shows one example of the composition of signal information (excluding bit information required for error detection and correction). The information in Fig. 2E commences with a header which is particular binary information that synchronizes all subscriber station apparatus in the analysis of the information pattern that follows. Following said header are three segments: an execution segment, a meter-monitor segment, and an information segment. As Fig. 2E shows, the header and execution and meter-monitor segments constitute a command.

"signal processor" ... page 15 line 8 ... signal processing apparatus defined at page 15, line 8.

"signal processor alternative #1" ... page 34 line 1 ... For certain applications, one particular embodiment (hereinafter, "signal processor alternative #1") can be configured to receive only other inputs at buffer/comparator, 8, in which case said embodiment has no oscillator, 6; switch, 1; mixers, 2 and 3; or decoders, 30 or 40.

"signal processor alternative #2" ... page 34 line 6 ... For other particular applications, another

particular embodiment (hereinafter, "signal processor alternative #2") can be configured to receive only inputs at buffer/comparator, 14, in which case said embodiment has only buffer/comparator, 14; recorder, 16; clock, 18; and the control device apparatus associated with controller, 20.

"signal records" ... page 31 line 34 ... Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records")

"signal unit" ... page 14 line 26 ... (The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission. The term "signal word" hereinafter means ...

"signal word" ... page 14 line 32 ... The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)

signals ... page 40 line 17 ... The signals of the present invention are the modalities whereby stations that originate programming transmissions control the handling, generating, and displaying of programming at subscriber stations.

...

SPAM signals control and coordinate a wide variety of subscriber stations. Said stations include ... "local affiliate" broadcast stations that receive and retransmit single network transmissions; ... "cable system headends" that receive and retransmit multiple network and local broadcast station transmissions; and ... "media centers" in homes, offices, theaters, etc. where subscribers view programming.

...

... page 43 line 32 ... SPAM signals contain binary information of the sort well known in the art including bit information required for error correction using forward error correction techniques, well known in the art, in point to multi-point communications; request retransmission techniques, well known in the art, in point to point communications; and/or other error correction techniques, as appropriate.

Fig. 2E shows one example of the composition of signal information (excluding bit information required for error detection and correction). The information in Fig. 2E commences with a header which is particular binary information that synchronizes all subscriber station apparatus in the analysis of the information pattern that follows.

Following said header are three segments: an execution segment, a meter-monitor segment, and an information segment. As Fig. 2E shows, the header and execution and meter-monitor segments constitute a command.

"SPAM" ... page 40 line 21 ... (The term, "SPAM," is used, hereinafter, to refer to signal processing apparatus and methods of the present invention.)

"specified condition commands" ... page 44 line 33 ... Particular commands (called, hereinafter, "specified condition commands") always contain meter-monitor segments. Said commands cause addressed apparatus to perform controlled functions only when specified conditions exist, and meter-monitor information of said commands specifies the conditions that must exist.

"standard control-invoking value" ... page 285 line 7 ... see "covert control-invoking value"

T

third combining synch command ... page 89 line 3 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

...
... page 90 line 28 The third message is of the information associated with the third combining synch command. [See page 26 line 33 through page 27 line 7 of the specification as well as "combining synch command" above.] Said third command has only a "10" header and an execution segment and addresses URS microcomputers, 205. Said command causes said computers, 205, to cease combining and transmit only the received composite video transmission to monitors, 202M, and to continue processing in a predetermined fashion (which fashion may be determined by the aforementioned program instruction set).

"transparent commands ... page 267 line 34 ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) By contrast, the 1st-, 2nd-, and 3rd-old-program-message (#5) messages, the 2nd-new-program-message (#5), and the 1st-old-radio-program- message (#5) inform no station control apparatus of new programming transmissions because said commands are addressed to no apparatus; the execution segment of each is the aforementioned pseudo-command. (Hereinafter, each said signal is called a "transparent command" because no subscriber station control apparatus "sees" said signal.)

U

"ultimate receiver stations" ... page 40 line 31, page 40 line 33, and page 40 line 35 ... (Hereinafter, ... stations where subscribers view programming are called "ultimate receiver stations.")

"URS" ... page 45 line 26 ... refers to ultimate receiver station apparatus.

V

W

"w-bits information" ... page 103 line 29 ... Said match causes SPAM-controller, 205C, to place particular preprogrammed bit-length-number information at said SPAM-length-info-@205 memory. (Said particular bit-length-number information is called, hereinafter, "w-bits information".) Said information is the precise number of bits, following the last of said L bits, that remain in the meter-monitor segment of the command associated with said length token. Said number is not a preprogrammed constant value such as H, X, and L that is the same for every SPAM command with a meter-monitor segment. Rather, said number is a variable that may differ from one SPAM meter-monitor segment to the next. More precisely, it is, for any given meter-monitor segment, a selected one of several preprogrammed bit-length-number information alternatives.

"W-token information" ... page 103 line 15 ... Automatically SPAM-controller, 205C, compares the information at said SPAM-length-info-@205 memory with preprogrammed token-comparison-@205 information and determines that said information at memory matches particular token-comparison-@205 information (which particular information is called, hereinafter, "W-token information").

"wireless" ... page 248 line 21 ... over-the-air (hereinafter, "wireless")

X

"X" ... page 96 line 11 ... a second preprogrammed constant number of next bits and record said bits, in their order after conversion, at particular SPAM-exec register memory. Said second constant number is the particular number of bits in a SPAM execution segment. (Hereinafter, said second constant number is called "X".)

Y

Z

MESSAGES DEFINED IN SPECIFIC EXAMPLES

EXAMPLE #1

EXAMPLE #2

"2nd meter information (#2)" ... page 152 line 34 ...

EXAMPLE #3

"1st monitor information (#3)" ... page 174 line 21 ...

"2nd monitor information (#3)" ... page 190 line 14 ...

EXAMPLE #4

"1st meter-monitor information (#4)" ... page 213 line 32 ...

"2nd meter-monitor information--second precondition failed--(#4)." ... page 238 line 16 ...

"2nd meter-monitor information (#4)." ... page 239 line 3 ...

"2nd monitor information (#4)" ... page 240 line 40 ...

EXAMPLE #5

1st command (#5) ... page 251 line 17 ...

"1st-old-program-command (#5)" ... page 252 line 13 ...

"1st-new-program-message (#5)" ... page 253 line 1 ...

"2nd command (#5)" ... page 256 line 5 ...
"2nd-old-program-message (#5)" ... page 256 line 27 ...
"2nd-new-program-message (#5)" ... page 257 line 5 ...
"3rd command (#5)." ... page 259 line 25 ...
"3rd-old-program-message (#5)" ... page 260 line 12 ...
"3rd-new- program-message (#5)" ... page 260 line 29 ...
"4th command (#5)" ... page 263 line 5 ...
"1st-old-radio-program-message (#5)" ... page 264 line 28 ...
"1st-new-radio-program-message (#5)" ... page 265 line 9 ...

EXAMPLE #6

"1st supplementary message (#6)" ... page 281 line 35 ...
"2nd supplementary message (#6)" ... page 281 line 35 ...

EXAMPLE #7

please-fully-enable-WSW-on-CC13-at-particular-8:30 information ... page 289 line 28 ...
"local-cable-enabling-message (#7)" ... page 291 line 19 ...
"1st-WSW-program-enabling-message (#7)" ... page 297 line 23 ...
"1st- WSW-decryption-check (#7)" ... page 300 line 15 ...
"2nd-WSW-program-enabling-message (#7)" ... page 304 line 10 ...
"2nd-WSW-decryption-check (#7)" ... page 308 line 5 ...
Prepare-To-Retransmit-WSW message ... page 430 line 35 ...
Select-WSW-Program-Unit SPAM message ... page 435 line 19 ...

EXAMPLE #8

"first- network-cue-to-transmit-locally message (#8)") ... page 335 line 30 ...

"first-network-cue-to-transmit-network message (#8)" ... page 335 line 35 ...

"select-A-message (#8)," the "select-B-message (#8)," the "select-C-message (#8)," and so forth up to the "select-Z- message (#8)," each message referring to the corresponding program unit: A, B, C, and so forth up to Z, respectively, and said messages are called collectively the "cue-to-select messages (#8)." ... page 342 line 14 ...

EXAMPLE #9

"generate-set-information message (#9)" ... page 359 line 3 ...

"first cueing message (#9)" ... page 366 line 27 ...

"align-URS- microcomputers-205 message (#9)" .. Page 368 line 6 ...

"synch-SPAM-reception message (#9)" ... page 368 line 19 ...

"control-invoking message (#9)" ... page 368 line 30 ...

"transmit-data-module-set message (#9)" ... page 369 line 22 ...

"data-module-set message (#9)" ... page 369 line 30 ...

"transmit-and-execute-program-instruction-set message (#9)" ... page 371 line 9 ...

"program-instruction-set message (#9)" ... page 371 line 17 ...

"cease-stripping-and-embedding message (#9)" ... page 372 line 13 ...

"1st commence-outputting message (#9)" ...page 372 line 25 ...

"2nd commence-outputting message (#9)" ... page 372 line 26 ...

"3rd commence-outputting message (#9)" ... page 372 line 27 ...

"1st cease-outputting message (#9)" ... page 372 line 27 ...

"4th commence-outputting message (#9)" ... page 372 line 28 ...
"5th commence-outputting message (#9)" ... page 372 line 29 ...
"6th commence-outputting message (#9)" ... page 372 line 30 ...
"2nd cease-outputting message (#9)" ... page 372 line 30 ...
"second cueing message (#9)" ... page 373 line 5 ...
"disband-URS- microcomputers-205 message (#9)" ... page 373 line 22 ...

EXAMPLE #10

"generate-set-information message (#10)" ... page 377 line 34 ...
"load-set-information message (#10)" ... page 381 line 23 ...
"align-URS-microcomputers-205 message (#10)" ... page 382 line 26 ...
"synch- SPAM-reception message (#10)" ... page 383 line 4 ...
"control-invoking message (#10)" ... page 383 line 13 ...
"transmit-data-module-set message (#10)" ... page 383 line 24 ...
"transmit-and-execute-program-instruction-set message (#10)" ... page 385 line 7 ...
"program-instruction-set message (#10)" ... page 385 line 14 ...
"cease-stripping-and-embedding message (#10)" ... page 387 line 9 ...
"1st commence-outputting message (#10)" ... page 387 line 25 ...
"2nd commence-outputting message (#10)" ... page 387 line 26 ...
"3rd commence-outputting message (#10)" ... page 387 line 26 ...
"1st cease-outputting message (#10)" ... page 387 line 27 ...
"4th commence-outputting message (#10)" ... page 387 line 28 ...

"5th commence-outputting message (#10)" ... page 387 line 29 ...

"6th commence-outputting message (#10)" ... page 387 line 29 ...

"2nd cease-outputting message (#10)" ... page 387 line 30 ...

"disband-URS-microcomputers-205 message (#10)" ... page 387 line 34 ...

"local-output-cueing message (#10)" ... page 388 line 7 ...

EXAMPLE #11

first-master-cueing message (#11) ... page 545 line 32 ...

first-national-cueing message (#11) ... page 546 line 3 ...

second-master-cueing message (#11) ... page 546 line 33 ...

transmit-program-instruction-set SPAM message (#11) ... page 547 line 17 ...

local-second-cueing message (#11) ... page 552 line 12 ...

second-cueing message (#11) ... page 554 line 22 ...

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